EFFECTS OF A SIBLING ACQUAINTANCE PROGRAM ON SUBSEQUENT TODDLER BEHAVIOR

by

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ABSTRACT

Twenty-one women who had uncomplicated vaginal deliveries and who had toddlers less than 4 years of age were interviewed in order to evaluate the effect of a program designed to enhance family participation on a postpartum unit. The incidence of regressive behavior in toddlers participating in the sibling acquaintance program allowing direct sibling contact was compared with toddlers who participated in a program not allowing direct sibling contact. Regressive behavior scores were less for toddlers participating in sibling acquaintance, but the difference was not significant with the exception of toileting behavior at Time 1. Significant differences were found for age and sex. Interaction effects for age and group were noted for sleeping and toileting. Mothers whose toddlers participated in the sibling acquaintance program reported greater satisfaction than mothers whose toddlers did not participate. Bonding between siblings in the sibling acquaintance program was hypothesized to have contributed to the decrease in regressive behavior.

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CHAPTER I

INTRODUCTION AND REVIEW OF LITERATURE

Introduction

The birth of an infant is a significant event in a family's experience. It requires major alterations in the usual patterns of interaction between family members. This event can be particularly stressful for toddlers; not only must they cope with separation from their mothers during hospitalization for delivery, but once the baby is brought home, toddlers must begin to share the love and attention of their parents. Kayiatos, Adams and Gilman (1984) reported negative behaviors after the birth of a sibling in 93% of children under 4 years of age.

Regressive behavior is exhibited by toddlers when stressful events overwhelm their coping abilities. Toddlers' worlds are centered around their parents, especially their mothers. They may never have experienced separation from their mothers before and will vigorously protest in an attempt to get her back. Despair and denial follow if the mother does not return (Bowlby, 1973). Hospital sibling visitation policies have helped ease

separation anxiety by reassuring toddlers that their mothers have not deserted them (Trause, 1978; Young, 1982).

Becoming a sibling is stressful for the toddler who may feel replaced by the newborn. Studies of siblings present at birth have suggested that attachment is enhanced when siblings are allowed close, early contact with the newborn (Krutsky, 1985; Parma, 1979). Kowba and Schwirian (1985) concluded that sibling visitation programs that allow direct sibling contact could promote bonding between the sibling and the infant.

Problem Statement

The problem of this study was to identify the effects of a sibling acquaintance program on subsequent toddler behavior in the first month after the birth of a sibling. This investigation attempted to separate the effect of separation on the toddler when the mother is hospitalized for delivery from the effect of becoming a sibling.

Purpose

The purpose of this study was to foster a smoother integration of newborns into families with toddlers by evaluating the effectiveness of a program designed to enhance family participation on a postpartum unit.

Conceptual Framework

A developmental framework is useful in understanding the behavior of a young child who is experiencing a separation from the mother and is taking on a new role as an older sibling. The response to these stressors can be assessed according to age-related, culturally-appropriate norms (Hepler, 1981). Erikson's stage of autonomy versus shame and doubt characterizes the developmental level of the toddler. The child is caught between a desire to assertively explore the environment and a desire to remain securely dependent. Parents are the center of the toddler's universe; their support and validation of the infant's increasing autonomy promotes a growing self-esteem (Erikson, 1950; Thomas, 1979). The behavior of toddlers under stress shows more dependency, since this was a previously successful method of gaining parental attention (Barnard, 1981; Thomas, 1979).

Children under 4 years of age require a close, continuous relationship with their mothers. Separation anxiety represents an intolerance by the toddler to a loss of the mother's constant comfort and security (Bowlby, 1973). Sibling visits on the obstetrical unit help toddlers realize that their mothers have not deserted them. The move towards shorter hospital stays has brought the mother home sooner and allowed the young child to quickly reestablish a secure relationship with her

(Trause, Voos, Rudd, Klaus, Kennel & Boslett, 1981; Young, 1982).

The toddler requires regular positive interactions with the new sibling to assist in assumption of the role of the older child. As the toddler becomes more comfortable and secure in this role, behavior will again become more autonomous (MacLaughlin & Johnston, 1984). The intimate bonds established between siblings as they grow may be second only to those between a mother and child (Binzley, 1981).

A greater understanding of toddlers' behavioral responses to the birth of a sibling are important for nurse-midwives, nurses, and other health care professionals who interact with parents and children. Parents need assistance on how they can prepare their child to take on the role of the older sibling. They require anticipatory guidance about what responses to expect from their children and coping strategies that may be successful (Barnard, 1981; Vestal, 1979). The child can be helped directly through prepared sibling classes and early sibling-newborn interaction that fosters the attachment process (Johnsen & Gaspard, 1985; Kowba & Schwirian, 1985).

Review of Literature

Family-Centered Maternity Care

Over the past 50 years, the site of childbirth has moved from the home to the hospital. Currently, in the United States, more than 97% of births take place in the hospital setting (Affonso & Clark, 1979). While hospitalization for delivery has greatly improved the physical safety of birth, it has been at the cost of the psychological supports provided by the family.

The rise in popularity of prepared childbirth techniques, the women's movement and a growing dissatisfaction with hospital practices that treat childbirth as a pathologic event, led consumers to demand changes. The Joint Statement on Maternity Care (ACOG, ACNM, & NAACOG, 1971) signaled an increased recognition by health care professionals of the significance of childbirth for the entire family system. Beliefs about the value of family-centered maternity care have led to many changes in hospital policies. Fathers have become active participants in the birthing process. Other changes have allowed for grandparent involvement, birthing rooms, and increased contact between adult family members and the newborn. However, inclusion of siblings in family-centered maternity care has lagged behind. Widely-held beliefs about young children spreading infections to newborns has restricted access of siblings to the newborn (Young, 1982).

Recently, several studies (Kowba & Schwirian, 1985; Umphenour, 1980; Wranesh, 1982) have shown no increase in bacterial colonization in newborns following direct sibling contact. Levine (1980) issued a challenge to nurses to implement changes in hospital practices that will make the childbirth experience rewarding and enjoyable for families. The inclusion of siblings in family-centered maternity care promotes integration of newborns into the family system (Kowba & Schwirian, 1985; Young, 1982). A position statement issued by the Committee on Fetus and Newborn, American Academy of Pediatrics (1985) encourages hospitals to develop policies for sibling visitation in order to foster parent-newborn-family relations.

Sibling Bonding

Investigations of the attachment process have yielded information about how affectional bonds are formed. The way in which bonds are established is multifactorial. Past experience, cultural influences, interpersonal relationships within the family, genetic endowment and the type and clarity of the infant's responses all influence bonding (Klaus & Kennel, 1983).

Little is known about the establishment of bonds between young children and their new siblings. Three to 4 year olds were videotaped during the first 5 minutes of their initial encounter with their sibling (Marecki,

Woolridge, Dow, Thompson & Lenchner-Hyman, 1985). A greater incidence of looking at the infant than of touching or talking to the infant was noted. Touching was mostly of the face and upper extremities. Most siblings hugged and/or kissed the baby. These results are limited by the small sample size (N=30). The children were also being reunited with their mothers for the first time since delivery after a 2-3 day separation. Babies were fully clothed and were held by the mothers during these encounters. The behaviors of young children allowed to hold their siblings may yield different responses. The effect of the 2 to 3 day separation from the mother may also have influenced these findings.

Novak (1980) reported on observations made during sibling-newborn visits on the second postpartum day. Touching the newborn by the older sibling progressed in a manner similar to that observed by adults. This was not a controlled study and observations are subject to reporter bias.

When interactions between young children and the newborn were observed (Vestal, 1979), bonding behaviors noted were eye contact, soft speech and gentle handling of the newborn. Infants were visually able to identify their siblings, as well as their parents by 6 weeks of age. This bonding was suggested as being important in establishing a positive basis for future sibling relationships.

This was not a controlled study. No data were presented about the number of subjects observed or the type of observation conducted.

Family Integration Concerns of Postpartum Women

Integrating the newborn into the family system is a major area of concern for multiparous women. Moss (1981) administered a card-sort instrument to 56 multiparas on the 3rd postpartum day and found family integration concerns ranked as a worry or interest more often than concerns about self or the newborn. "How the older child will react" was cited as a concern by 55 of the 56 subjects. Similar results were obtained from a questionnaire administered to women during the first 6 weeks postpartum (Gruis, 1977). Regulating the demands of all the family members was a concern for 21 of the 23 multiparas surveyed. The older child's behavior concerned 40% of the respondents.

Immediately postpartum, mothers are concerned about their relationship with their older child and frequently feel that they have betrayed that exclusive relationship (Mercer, 1979). Fourteen women on a postpartum unit were observed by Walz and Rich (1983). Considerable energy was expended by the mothers promoting acceptance of the newborn by her older children. They concluded that successful accomplishment of this maternal task was

necessary for women to take on the role as a mother of two children.

Unstructured interviews with 8 multiparous women were conducted weekly for 4 weeks after delivery (Grubb, 1980). Findings from these interviews revealed a drastic change in women's attitudes toward the older children. While hospitalized, subjects verbalized empathy with the older child's feelings of being replaced by the newborn. By the fourth interview, these mothers viewed the older child's behaviors as demanding and unreasonable and all were actively engaged in efforts to restore a sense of equilibrium within the family system. This study suffers from a small sample size. This investigator was interested in perceptions of time by these women; the maternal-child relationship was viewed from this perspective.

Toddler Development

Active, curious and strong-willed traits characterize children in the toddler years. Physically, they have mastered the upright position and explore the environment by walking, running and climbing. Continued maturation of gross and fine motor control has improved the toddler's coordination and with the development of sphincter control, autonomy in self-help skills is achieved (Julian, 1981).

Play is the work of the young child (White, 1980).

It is the means by which toddlers learn and master new skills through practice and experimentation. Children in this age group like to imitate their parents and engage them in simple games. Active exploration of objects in the environment helps satisfy the toddler's curiosity, which stimulates creativity and imagination. The child learns about the permanence of objects and seeks them out when hidden from sight (Singer & Revenson, 1978; White, 1985).

Language skills develop and expand rapidly in early childhood. Words are combined into two or three-word sentences starting at about 18 months of age. The child uses words to form mental images of objects. Symbolic thought begins as the toddler learns to problem-solve using these mental images rather than relying solely on the physical manipulation of objects. The toddler centers on one feature of an object and believes that it completely characterizes the object (Pulaski, 1971; Singer & Revenson, 1978).

Schemata are structures of actions developed as the child interacts with the environment. They form a framework into which new experiences are evaluated. When a mismatch occurs between a scheme and a new event, the child either revises the scheme to accommodate the new discovery or reshapes perception of the event to fit an existing scheme (Thomas, 1979). This learning about the

environment is the basis for intelligence and later achievement (White, 1980). Children who are encouraged to explore and master their surroundings develop confidence in their abilities and strong egos (Erikson, 1950; White, 1985).

The thought process of toddlers is egocentric; they do not realize that their point of view is not shared by everyone else. Toddlers cannot understand reasoning-type explanations since they assume that everyone thinks exactly the same way they do (Pulaski, 1971). Children at this age have not grasped the flow or dimensions of time. They have trouble understanding that they must wait. A few moments of waiting can seem like an eternity to a toddler (Singer & Revenson, 1978).

The toddler has a strong desire to be independent while at the same time wanting parental protection and security (Tudor, 1981). This pushing-pulling situation characterizes Erikson's stage of autonomy versus shame and doubt. The child seeks to gain autonomy and a sense of self-control (Erikson, 1950). Familiar routines and the presence of the parents give the toddler the security and support needed to become autonomous (Ritchie, 1981; White, 1980).

Negativism begins during the second year. Children then realize that they are separate from their parents and control their own bodies. Saying "no" is a means of

exerting autonomy and attempting to control the situation. Toddlers may say "no" even when they mean "yes" as a means of asserting their right to make a choice. Eating, sleeping and toileting are all areas in which parents and children struggle for control. Toddlers vigorously resist efforts by parents to severely restrict their control (Brazelton, 1974; Tudor, 1981; White, 1985).

Separation anxiety occurs when a young child is involuntarily separated from the mother. Since the mother's presence is necessary to provide the security to be autonomous, separation results in an increased incidence of dependency behaviors. Children revert to earlier stages of development which were successful in meeting their needs in the past. Resolution of dependency behaviors occurs rapidly after reunion, although an increased incidence of clinging behavior is evident until the child becomes secure in the knowledge that the mother will not be leaving again (Bowlby, 1973, 1979).

Posthospitalization Behaviors of Young Children

The behavioral responses of young children after hospitalization may be similar to children of the same age experiencing the birth of a sibling. In each instance, the child is separated from the parent for a period of time and is concurrently coping with another stressor (i.e., hospitalization or siblinghood).

Most studies of the posthospitalization responses of children have relied on parental reports (Thompson, 1985). The Posthospital Behavior Questionnaire was developed by Vernon, Schulman and Foley (1966) to assess behavioral changes in the first week after hospitalization. The questionnaire was mailed to parents 6 days after discharge. Responses were obtained from 387 of 800 potential subjects.

Data analysis revealed the highest incidence of behavioral changes occurred in children between the ages of 6 months and 3 years, 11 months. Behavioral changes indicative of increased psychological upset were significant in the total score and three factor scores (separation anxiety, sleep anxiety and aggression toward authority). Longer hospital stays were also positively linked to behavioral changes. This study did not have a control group nor was any attempt made to follow up on nonreturned questionnaires; the group responding may have been different than those who returned the questionnaire. The instrument was pretested before use and results from a similar questionnaire were positively correlated. Data collected from nondirected interviews with parents supported the total scores obtained on the questionnaire.

Findings of other researchers using the Posthospital Behavior Questionnaire have yielded similar results. Age-related changes in posthospital behavior were reported

(Wolfer & Visintainer, 1975, 1979). Children aged 3 to 6 years had significantly more posthospital adjustment problems than children aged 7 to 14 years. Children undergoing minor elective surgical procedures were randomly assigned to control and treatment groups. Children and parents in the treatment group received systematic psychological preparation and continued support by a consistent nurse. The group receiving psychological preparation and stress-point nursing care had fewer behavioral changes than the group not receiving this treatment. More upset was seen in the younger children in each group (Wolfer & Visintainer, 1975).

A follow-up study compared the effectiveness of various combinations of home preparation and in-hospital preparation of children prior to hospitalization for tonsillectomies. The children who received preparation of any kind showed fewer posthospitalization adjustment problems than those who did not. The authors suggested that event-specific preparatory materials could be used by parents to effectively reduce the stress of hospitalization. These studies are subject to parental bias since their perceptions of the child's response were relied upon for assessing posthospitalization response.

Responses of Children Present at Birth

A growing number of families are choosing to have their children present for the birth of the baby. Family integration and bonding issues are the most common reasons cited by parents for wanting their children present at delivery. They expressed the feeling that they wanted the older child to be a participant in the birth process, not excluded (Daniels, 1983; Krutsky, 1985). Couples consistently stated that being present at birth helped the older child form attachments to the newborn. The incidence of regressive behaviors was reported to be less than those of children not participating at delivery. A higher frequency of nurturing and mature behaviors were reported (Daniels, 1983; Parma, 1979; Taylor, 1981; Young, 1982). These studies suffer from a bias in that sibling participation was voluntary; parents wanted it to be a positive experience and would be less likely to report negative behaviors in their children. These children were also extensively prepared for the birth which has been reported to ease the transition into the role of older sibling (Johnsen & Gaspard, 1985; MacLaughlin & Johnston, 1984; Malinowski, 1979).

Toddler's Reactions to the Birth of a Sibling

The birth of a sibling and the role change it requires is a common and stressful experience for young

children. The child may view the newborn as a replacement or as a rival for the parents' love. The role change to that of an older sibling is most difficult for children who are under 4 years of age (Vestal, 1979; Legg, Sherick & Wadland, 1974; White, 1980). Negative or regressive behaviors surface when children feel the security of their relationship with their parents is threatened (Kayiatos et al., 1984). Children who are well-prepared for this experience may show some positive behavioral changes after the birth of a sibling (Dunn & Kendrick, 1982).

Interviews were conducted with 21 mothers who had children between the ages of 11 1/3 months to 5 years, 2 months at the time of the time of the sibling's birth (Legg et al., 1974). Interviews focused on the child's response to the sibling during the mother's pregnancy, at the time of birth and the separation caused by the hospitalization, at the time of the mother's return home with the newborn, and the time from mother's return home to the present. All parents were college-educated and of various ethnic backgrounds.

The interviews yielded information on how these mothers prepared their children for the birth and factors/events that helped or hindered their adjustment. Strategies identified as helpful to toddlers' adjustment were:

1. Early preparation for the birth using books,

visits to the obstetrician's office, feeling fetal movements and experiences with other babies.

2. Changes in sleeping arrangements made prior to delivery.

3. Arrangements for someone close to the child to care for him or her during the mother's hospitalization.

4. Father's involvement in child care.

5. Introduction of a pet for the child to care for.

6. A gift from the newborn to the older child.

7. Contact with the mother during her hospital stay, especially visits.

8. Contacts with peers who have experienced the birth of a sibling.

9. Having a sibling older than the toddler.

Factors that were associated with negative and regressive changes in toddlers' behavior were:

1. Family moving shortly before or after the infant's birth.

2. No contact with mother during hospitalization.

3. An unfamiliar caregiver during the mother's hospitalization.

4. Sleeping arrangements with either newborn sharing a room with the toddler or the newborn sharing the parents' room.

Regressive changes in toilet training and demands for a bottle or pacifier or thumbsucking were most frequently

reported. Sleep disturbances were commonly associated with changes in sleeping arrangements which were made after delivery. Negative and aggressive behaviors were directed towards the mother until the infant began crawling and then were directed to the young sibling.

This study did not specify the time from delivery when the interviews were conducted. Maternal reports may be biased towards more recent events and she may have scanty recall of events surrounding her delivery. A small sample size limits the generalizability of the results. Maternal reports were relied upon instead of direct observation.

Factors were examined that may influence how siblings adapt to the newborn's arrival (Vestal, 1979). Large families were identified as having an easier adjustment based on more experience in cooperating, authority shared between parents and siblings, and routines being more organized and directed. Children who were 0-2 years of age when the infant was born were more likely to result in regressive behavior. The regressive behavior was identified to be a response to feelings of uncertainty, rejection or a need to compete for parental attention. An initial euphoria surrounding the newborn's arrival rapidly progressed to hostility or anger directed toward parents or other siblings.

Suggestions for preparing toddlers to become siblings

included toddler participation in setting up the nursery and attendance at sibling classes. A trusted adult, caring for the child in the home while the mother is hospitalized for delivery may be helpful in decreasing the level of separation anxiety. Phone calls and sibling visits were also identified as helpful, due to the young child's lack of understanding about the concept of time. Children may adapt more rapidly when they have repeated reassurance of love and received periods of private one-on-one contact with their mothers.

A longitudinal study using interviews and observations in the homes of 40 families was conducted in order to assess reactions of first-born children to the birth of a sibling (Dunn & Kendrick, 1982). The children were between the ages of 18 and 43 months at the time of the infant's birth. Observations were made at four points in time; in the last month of pregnancy 2-3 weeks postpartum, 8 months and 14 months postdelivery. Interviews with mothers included questions about the toddler's behavior in areas of eating, sleeping, toileting, and attention-seeking behaviors.

Demanding and negative behaviors were frequently reported, followed by tearfulness, clinging and occasional withdrawal. The incidence of regressive changes in toilet training and sleeping patterns was high. Little change was noted in eating problems. Approximately one-half of

the children improved their independence in one area but had regressive changes in another behavioral area. No difference in behavior was found in the behavior of toddlers whose mothers delivered at home versus those whose mothers delivered in the hospital. Toddlers who showed interest in and affection toward the baby in the first weeks after birth were significantly more friendly to their siblings at the 14-month observation period. This behavior was stronger in boy toddlers and in same-sex pairs.

This study had a small sample size but did yield more information about the adjustment young children experience when they assume the role of an older sibling. It was subject to observer bias and maternal reports may not have been accurate. Good correlation was reported between observer reports and maternal reports. Observations were made twice in each of the four periods which adds to the reliability of the findings.

A random sample of 29 mothers was interviewed about the behavior of their toddler following the arrival of the second child (Kayiatos et al., 1984). A telephone interview was conducted with each subject sometime between 3 and 6 weeks postpartum to determine the mother's perception of behavioral changes in her toddler since the baby's birth. Toddlers were aged 18 months to 4 years at the time their sibling was born. Mothers were also asked

to identify how they coped with these changes and their satisfaction with their interventions.

Data were analyzed for the total and mean number of changes in four categories: eating, toileting, sleeping, and general behavior. The mean number of regressive behavioral changes was 4.24 per toddler. Ninety-three percent of the mothers reported changes in general behavior. Toddlers who participated in sibling visitation in the hospital had fewer regressive changes reported than those who did not visit which approached significance at $p < 0.05$. Greater than 90% of the mothers had telephone contact with their toddler while hospitalized. Children aged 3-4 years had fewer changes in behavior than those aged 1-3 years. Mothers perceived the changes in behavior as a normal adaptive phase.

Study limitations include a small sample size. Selective memory of the mothers could have affected maternal responses. In some instances, they were asked to recall behavior which occurred 6 weeks previously. The investigators noted a possible built-in bias of interviewers in the way the questions were phrased and the tone of voice utilized. The type of visitation programs in which the children participated was not specified.

The responses of first-born children between 1 1/2 and 3 years of age who participated in a sibling visitation program were studied (Trause, 1978; Trause et

al., 1981, 1983). Thirty-seven children were randomly assigned to control and treatment groups. Subjects in the control group did not visit their mothers in the hospital. The toddlers in the treatment group visited the mother in the hospital, but no visits occurred between siblings. Reunions between mother and toddler after the 4-6 day separations were videotaped. Data about toddler behavior were obtained during home visits 2 to 4 weeks predelivery and at 1 to 2 weeks after the mothers returned home. Mothers were asked to recall the behavior of their toddlers within the previous 24 hours.

No significant differences were noted in behaviors at home between the two groups. Ninety-two percent of the mothers reported at least one negative behavior change with 54% reporting three or more changes. Most regressive changes were noted in sleeping behavior. Temper tantrums, increased activity and clinging behavior were frequently reported. An improvement in eating behavior was occasionally noted. Significant differences were noted at the toddler's reunion with the mother. Joyful reunions occurred between mother and child in the group who had visitation. Children who had not visited avoided their mothers and rebuffed their attempts to greet them.

This study was limited by a small sample size. Parents were not told if the child was in the visitation group until delivery, thus limiting their ability to pre-

pare the child for the experience. Most of the children visited only once. Recall techniques that include only the past 24 hours may not yield an accurate picture of the toddler's behavior. Films were not analyzed for the child's response to the newborn.

A study by Jordan that examined sibling reactions at 1, 5 and 8 weeks following the birth of a baby was reported by Kraus (1979). A single visit on the postpartum unit did not result in a significant difference in toddler behavior. The length of the maternal/newborn hospital stay was not reported; however, other studies of sibling visitation programs in the late 1970s report maternal hospital stays of 4 to 6 days. Kraus suggested that preparation of toddlers needs to begin in the prenatal period and that care should be taken to include the toddler in child care following the birth to decrease feelings of anxiety and jealously. An ideal sibling visitation program was described that would have flexibility as a key element. Each family member would have direct physical contact with the newborn in order to identify the baby as a real family member. These visits would take place in a family visiting room or in the mother's room with curtains drawn for privacy, last at least 30 minutes, and occur as frequently as needed by each family. Anticipatory guidance for parents about the normal reactions of children under 3 years of age would be

a component of patient education.

Prepared Sibling Classes

The effects of a prepared sibling class on children between 3 and 12 years of age were evaluated using direct observation and questionnaires (Johnsen & Gaspard, 1985). All siblings participated in visitation that included holding the newborn. Parents and children reported positive responses after the classes. Telephone follow-up of questionnaires was required due to poor returns. No major negative changes in the child's behavior were reported by the parents interviewed. A comparison group was not utilized in this study and subjects were self-selected. The children in this study were in the age group in which fewer negative changes in behavior would have been expected.

A sibling preparation program that included a class and a tour of the obstetrical unit for individual families has been described (Sweet, 1979). Questionnaires were administered immediately after the class and at 3 weeks postpartum. Parents reported that their children made a good adjustment to their sibling and felt the classes helped decrease the child's anxiety during mothers' hospitalization. No comparison group was used and the questionnaire administered to the parents was not included in the report for the reader to evaluate. Subjects were self-selected and reports could be subject to a halo ef-

fect. Ages of the children were between 2 and 10 years. Older children would be expected to have fewer negative behaviors than younger ones.

Other researchers (MacLaughlin & Johnston, 1984; Malinowski, 1979) have described prepared sibling classes. Emphasis was placed on tailoring the amount and depth of explanations to the child's level of understanding. A variety of methods, such as films, books, discussions, play experiences and tours of the hospital unit can be utilized to promote a greater understanding of the changes the child can expect when a sibling is born.

A multimedia program was designed specifically for preschool children aged 3 to 5 who are about to become older siblings (Honig, 1986). A series of three classes held over a 2-week period were given to groups of 4 to 6 children using teaching methods designed to be consistent with the cognitive and developmental levels of preschool-aged children. An evaluation tool based on the behavioral objectives rated the children's behavior on a scale from enthusiastic to nonattentive. The tool was used by the teacher to evaluate the effectiveness of the program and was shared with parents.

This report is purely descriptive. No data are provided about the program's effectiveness, nor about parental-preschooler satisfaction. The behavior of preschoolers during the class may not be a valid

measurement of how effective the program contents were in preparing the child to become a sibling. Measurements of behavior after the newborn's arrival may yield more complete information about the program's effectiveness. Sharing an evaluation form showing a poor response to the class with the parents may set up negative expectations by the parents for their child's subsequent behavior and increase their anxiety that their child did not perform up to the usual standards, contributing to a disruption of the parent-child relationship.

Infection Control

Most investigations of sibling visitation and acquaintance programs have focused on infection control issues (Kowba & Schwirian, 1985, Umphenour, 1980; Wranesh, 1982). No increase in bacterial colonization or infection has ever been demonstrated and favorable responses have been noted after sibling acquaintance programs were initiated (Young, 1982). Anecdotal data from one investigation suggested that early interactions between siblings may help the formation of affectional bonds (Kowba & Schwirian, 1985).

Research Questions

The following research questions were investigated in this project:

1. Do toddlers who participate in a program designed

to facilitate sibling acquaintance demonstrate fewer regressive changes in total behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

2. Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in eating behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

3. Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in toileting behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

4. Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in sleeping behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

5. Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in general behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

6. Do mothers whose toddlers participate in a program designed to facilitate sibling acquaintance report

that their family integration needs were met to a greater extent than mothers whose toddlers did not participate?

Definitions

Toddler

A toddler is defined as a child between the ages of 12 and 47 months at the time of the sibling's birth.

Behavior

Behavior is defined as the physical actions of toddlers in four categories: eating, sleeping, toileting and general.

Regressive Behavior

Regressive behavior is defined as a change in behavior subsequent to the birth of the newborn in which the toddler no longer functions at a previously-attained level of development or exhibits socially unacceptable behavior.

Eating Behavior

Eating behavior is defined as the actions of a toddler during meals, including appetite, food likes and dislikes, spills, playing at the table, using a bottle, needing to be fed and any actions between toddler and other family members at mealtime.

Sleeping Behavior

Sleeping behavior is defined as the actions of a toddler at night, including crying when put to bed, complaining of nightmares, actions to prolong bedtime, and waking up crying during the night.

Toileting Behavior

Toileting behavior is defined as the actions of a toddler related to toilet training, including accidents and playing on the toilet.

Toilet Trained

Toilet trained is defined as a toddler who usually remains continent of urine and stools during the daytime hours.

General Behavior

General behavior is defined as the actions of a toddler during the day, including the use of security items, thumbsucking, activity level, play habits, and temper tantrums.

Total Behavior

Total behavior is defined as the total number of eating, toileting, sleeping and general regressive behaviors for each toddler.

Time 1

Time 1 is defined as the interval between hospital discharge and the first interview. It includes all regressive behaviors reported by mothers in the first week following hospital discharge.

Time 2

Time 2 is defined as the interval between the first interview and the second interview. It includes all regressive behaviors reported by mothers that occurred continuously since hospital discharge or which began after the first interview.

Sibling Visitation

Sibling visitation is defined as a program designed to ease separation anxiety of young children by allowing them to visit with their mother in a visiting room while she is hospitalized for delivery.

Sibling Acquaintance

Sibling acquaintance is defined as a program designed to facilitate family integration by allowing siblings to touch and to hold the newborn on the postpartum unit.

Assumptions

The following assumptions were made in this investigation:

1. Mothers will be English speaking.

2. Mothers will answer truthfully.

3. Mothers are sensitive to behavior changes in their toddlers.

4. Mothers will be able to understand the questions during the interviews.

5. Questionnaires will be administered in the same manner to all subjects.

6. Mothers will have accurate recall of their toddler's behavior.

7. Mothers are the principal caregivers to their toddlers.

CHAPTER II

METHODOLOGY

Design

A preexperimental, static group comparison design was used (Table 1). In this design, a group receiving a treatment is compared with another group not receiving the treatment in order to determine the effect of the treatment. This design is used when randomization of subjects into groups is not possible (Campbell & Stanley, 1963). The clinical setting changed its sibling visitation policy beginning February 1, 1986, independent of this investigation. This study was designed in collaboration with the clinical setting in order to evaluate the change in policy.

The use of a static group comparison was necessitated by the clinical setting being utilized for this study. The clinical setting had one small postpartum unit. There was no reasonable way to prevent members of the treatment and control groups from mingling. Subjects in the control group might have felt they were receiving a less desirable treatment. The differences obtained in the posttest

Table 1

Static Group Comparison Design

	Groups	
Time	Treatment (n = 11)	Control (n = 10)
day of delivery to 3rd postpartum day	sibling acquaintance	sibling visitation
1 week after maternal/newborn hospital discharge	mother's report of toddler's behavior	mother's report of toddler's behavior
3 weeks after maternal/newborn hospital discharge	mother's report of toddler's behavior	mother's report of toddler's behavior

measures might then have been due to the resentful demoralization of the control group and not to the treatment (Cook & Campbell, 1979). The investigator's limitations on the length of time available for data collection also necessitated the use of a static group comparison so that an adequate sample size could be obtained.

The static group comparison design controls for some, but not all of the threats to internal validity. In particular, this design does not control for the threat of selection mortality (Campbell & Stanley, 1963). The threat of selection to internal validity refers to the fact that there is no means of knowing that both groups were equivalent prior to the introduction of the treatment. Some attempt was made to control for selection, since all subjects were screened by chart review (see procedure) prior to inclusion in the study.

Experimental mortality is another threat to internal validity. Differences in posttest measures could have been due to a differential dropout rate of subjects from previously equivalent groups and not due to the treatment. To attempt to control for mortality, the investigator made repeated attempts to contact each subject for the interviews.

Sample

Multiparous women who had healthy toddlers less than 4 years of age and who planned vaginal deliveries at an intermountain military hospital between January 1, 1986 and March 1, 1986 were asked to participate in this project. The investigator gave a description of the study to prospective subjects and informed consent was obtained from those who agreed to participate. Subjects consented to be interviewed about their toddler's behavior in the first month postdelivery (Appendix A). Each mother, except 1, participated in telephone interviews at 1 week and 3 weeks following maternal/infant discharge, during which her perceptions of changes in her toddler's behavior were elicited. The 1 subject without a telephone completed her questionnaires by mail. Potential subjects who did not have a normal labor and delivery course or who refused to participate in the interviews were eliminated from the study (Table 2). Subjects with an expected date of delivery in January who were undelivered after January 28, 1986 were included in the sample pool for the treatment group.

Instrument

The Behavior Changes in Toddlers and Maternal Responses Questionnaire (BCTMRQ) developed by Kayiatos et al. (1984) for a previous investigation was adapted and utilized in this study. Permission to use the instrument

Table 2

Mortality of Potential Subjects from

Sample Population Pool

Factor	Control (n=10)	Treatment (n = 11)
Cesarean section		
primary	2	1
repeat	1	6
Delivery at another hospital	0	2
E.D.C. changed	1	0
Undelivered	5	4
Refused to participate	1[a]	1[b]
Total mothers with toddlers	20	25

Note. [a] No phone, did not return mailed questionnaire; [b] Refused, not interested.

was obtained. The instrument has been reported to measure the presence of regressive behavior in toddlers in four categories: eating, toileting, sleeping and general behavior. The questionnaire format was adapted to fit the repeated measures design of this study. Questions regarding maternal perceptions of the hospitalization were added to the first interview. Demographic items included in the original questionnaire were completed by subjects following informed consent to reduce the length of time required for each interview (Appendix A, B).

The BCTMRQ is designed to determine the presence or absence of regressive behavior through maternal responses to each question. The number of questions varies within each category ranging from two questions in the toileting category to six in the eating category. Each response is scored 1 for the presence of regressive behavior or 0 for its absence. Assuming that the responses are additive within each category, a score for each is obtained by summing the number of positive responses. A total score, achieved by adding the four category scores, reflects the total amount of regressive behavior for each toddler.

The investigators who developed the original instrument do not report the use of factor analysis to determine validity of the items within each category; the sample size of that study was only 29. The small sample size of this present investigation prohibited subjection of the

BCTMRQ to factor analysis.

Face validity of the BCTMRQ was evaluated by comparing it to the Posthospital Behavior Questionnaire (Vernon et al., 1966). This instrument has been utilized by other investigators to measure posthospital distress and adjustment in young children (see Literature Review). Both questionnaires appear comparable in terms of similar content tapped.

Content validity was assessed by three experts in the field of child development. The experts concluded that the instrument was superficial, but was probably valid for assessing overall behavior. They believed that it might not be able to accurately assess all changes for an individual child, and cautioned against comparing individual behaviors between children at different ages since developmentally, a child of 12 months would normally be expected to act differently from a child of 47 months. The BCTMRQ does not measure the child's level of functioning prior to the baby's arrival, a useful frame of reference from which to assess reported behavior changes exhibited by the toddler.

The limitation of relying upon maternal reports of toddler behavior was noted by the experts. Mothers may not notice subtle changes in their toddlers' behavior or may be reluctant to report it. Their perception of their toddler as an "easy child" or a "difficult child" may

influence their perceptions and reporting of behavior changes.

Three significant areas for possible behavior changes were identified as missing from the instrument: illness of the toddler, changes in speech patterns or the presence of aggressive behavior directed to the newborn. These items were included in the modification of the instrument under the category of general behavior. When mothers reported regressive behavior due to illness of the toddler, those changes were not added into the child's score.

The instrument was pretested on 5 mothers of toddlers who had recently delivered another child in order to determine clarity of the questions and the length of time needed to complete the interview. Results from the pretest group were similar to those obtained from the study sample.

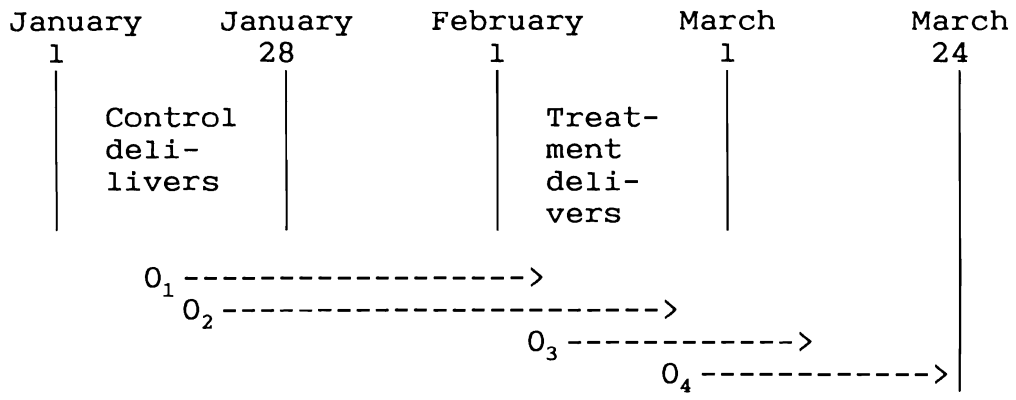
Procedure

Permission to conduct this investigation was obtained from the University of Utah Institutional Review Board and from the Hill Air Force Base Institutional Review/Human Use and Hospital Ethics Committee. Demographic data and telephone numbers were obtained from each subject following informed consent (Appendix A). The investigator performed a chart audit of the maternal and infant record following discharge from the hospital. Mothers or

newborns who had deviations from a normal labor and delivery and postpartum/nursery course were eliminated from the sample (Table 2). A letter was sent thanking them for their interest in the study.

Subjects who delivered between January 1, 1986 and January 28, 1986 were designated the control group. Their toddlers visited with them according to standard sibling visitation policy (Appendix C): the toddlers visited with their mother in the visitor's lounge and were allowed to view the newborn sibling through the nursery window. Visiting hours were 1130-1230 and 1830-1900.

Subjects who delivered between February 1, 1986 and March 1, 1986 were designated the treatment group. Their toddlers visited with them according to the new sibling acquaintance policy (Appendix C): those toddlers washed, gowned, and then visited with their mother and the newborn sibling in the mother's room. Toddlers touched and held the newborn as part of the visit. Visiting hours for the new program were 1700-1900. Toddlers in each group visited at least once prior to the mother's discharge. The investigator telephoned subjects at both 1 and 3 weeks after discharge (Figure 1). The questionnaire was administered by telephone interviews. Subjects were asked if they had approximately 20 minutes for the interview. If they did not have time, the investigator made arrange-



O_1 Interview 1 week after discharge (range 1/10-2/6/86)

O_2 Interview 3 weeks after discharge (range 1/24-2/20/86)

O_3 Interview 1 week after discharge (range 2/10-3/10/86)

O_4 Interview 3 weeks after discharge (range 2/24-3/24/86)

Figure 1. Time frame for the research project.

ments to return the call at a mutually-agreeable time. The investigator recorded the number of interruptions that occurred during each interview.

A repeated interview technique was chosen to identify changes in toddlers' behavior over time. One week postmaternal/newborn discharge was selected because a previous investigator (Trause, 1978) noted an increase in the incidence of regressive behaviors of toddlers in the first 2 weeks following birth of a sibling. Several studies of young children after hospitalization have used 1 week postdischarge to measure behavior (Vernon et al., 1966; Wolfer & Visintainer, 1975, 1979).

Three weeks postmaternal/newborn discharge was selected for the follow-up interview. The investigator postulated that regressive changes in toddlers' behavior would still be present at 3 weeks but to a smaller degree. Mothers interviewed about the behavior of the older child 2 to 3 weeks after the birth reported regressive behaviors present (Dunn & Kendrick, 1981). Mothers interviewed between 3 and 6 weeks postpartum by Kayiatos et al. (1984) reported fewer regressive behaviors in toddlers participating in sibling visitation. The wide variation in time since discharge from the hospital that the subjects were interviewed may have contributed to differences in their results.

CHAPTER III

RESULTS

Data Analysis

Data were analyzed at the University of Utah Computer Center utilizing the Statistical Package for the Social Sciences, Version X (Norusis, 1985). Differences between groups on the posttest measures were identified by analysis of variance with repeated measures (Lindquist Type 1 ANOVA). Two-way factorial analyses of variance (group by age, sex, and religion) were performed on the posttest data to measure differences between groups. Chi-square analysis was used to assess maternal satisfaction with two types of sibling visitation. The level of statistical confidence was set at $p < .05$.

Demographic characteristics are described for the total sample and for each group. The data are then presented according to each research question.

Sample Description

All 21 subjects delivered vaginally without complications between 1 January 1986 and 1 March 1986, at a small intermountain military hospital. Their mean age is 25.9

years. All are married. Twenty subjects are Caucasian and speak English as their primary language. One subject is Korean who speaks English as her second language. They have lived in Utah for an average of 6.7 years. Most are currently full-time mothers and have completed 1 year of college (Table 3). For most subjects, the newborn is their second child. Two-thirds of their toddlers are male. The age of their toddlers at the time of the baby's arrival averages 29.2 months. Newborn sex is equally distributed between males and females (Table 4).

In summary, the sample profile is a married, Caucasian woman in her mid-20s who is currently a full-time mother. Her toddler is between the ages of 13 and 42 months and is the oldest child.

Research Question One

Research question one stated:

> Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in total behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

Mothers of toddlers in the treatment group report fewer regressive changes in total behavior than those of toddlers in the control group; however, this difference is not statistically significant (Table 5, Figure 2). An ANOVA with repeated measures reveals no significant

Table 3

Demographic Characteristics of Sample

(N = 21)

Variable	Control (n = 10)	Treatment (n = 11)	Total (N = 21)
Age			
Mean (yrs)	25.4	26.3	25.9
Range	20-33	22-31	20-33
Education (Mother)			
Mean (yrs)	12.4	13.9	13.2
Range	10-16	12-16	10-16
Education (Father)			
Mean (yrs)	13.1	14.5	13.9
Range	12-16	12-18	12-18
Religion			
LDS	6 (60.0%)	3 (27.3%)	9 (42.9%)
non-LDS	4 (40.0%)	8 (72.7%)	12 (57.1%)
Family Income			
< $20,000/yr	8 (80.05)	3 (27.3%)	11 (52.4%)
> $20,000/yr	1 (10.0%)	6 (54.6%)	7 (33.3%)
Unknown	1 (10.0%)	2 (18.2%)	3 (14.3%)
Current Full-Time Occupation			
Mother	9 (90.0%)	10 (90.9%)	19 (90.5%)
Clerical/ professional	1 (10.0%)	1 (9.1%)	2 (9.5%)

Table 4

Demographic Characteristics of Toddlers and Newborns (N = 21)

Variable	Control (n = 10)	Treatment (n = 11)	Total (N = 21)
Toddler Sex			
Male	6 (60.0%)	8 (72.7%)	14 (66.7%)
Female	4 (40.0%)	3 (27.3%)	7 (33.3%)
Toddler Age (mos)			
Mean, SD	28.3 ± 9.2	30.0 ± 8.3	29.2 ± 8.6
Range	13-42	18-42	13-42
Older Siblings			
Yes	5 (50.0%)	3 (27.3%)	8 (38.1%)
No	5 (50.0%)	8 (72.7%)	13 (61.9%)
Newborn Sex			
Male	5 (50.0%)	6 (54.5%)	11 (52.4%)
Female	5 (50.0%)	5 (45.5%)	10 (47.6%)

Table 5

Means and Standard Deviations of Total Regressive Behavior Scores by Group and Time

Group	Time 1	Time 2
Control (n = 10)		
Mean	5.0	4.0
Standard Deviation	2.38	2.38
Treatment (n = 11)		
Mean	3.0	2.89
Standard Deviation	2.12	2.67

Note. Maximum score = 16.

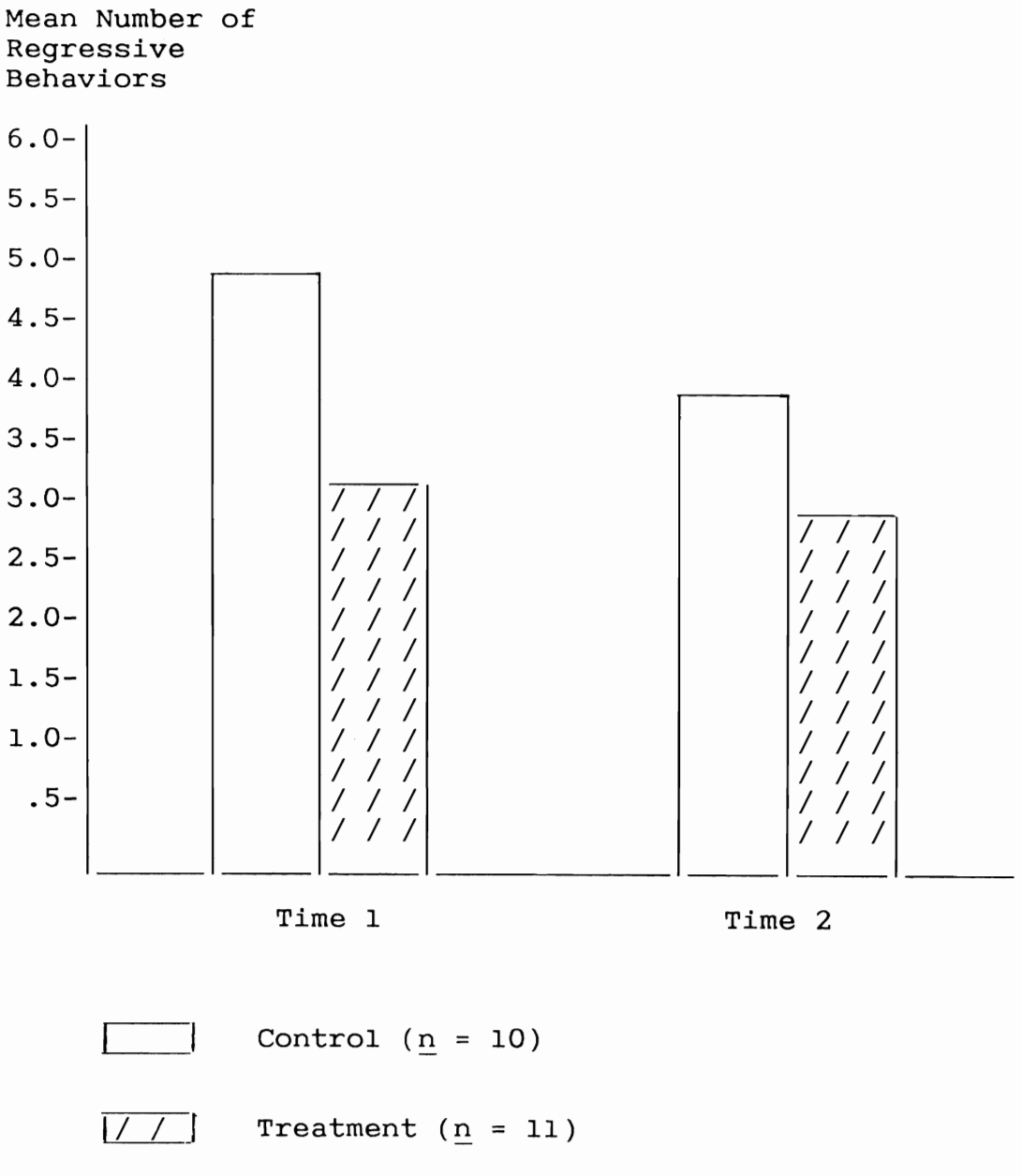


Figure 2. Comparison of mean total regressive behavior scores by group and time.

differences between groups over time. The incidence of regressive behavior in each group decreased over time. The most frequently reported incidence of regressive behavior at Time 1 is 5 for the control group and 2 for the treatment group. At Time 2, the most frequently reported incidence of regressive behavior is 3 for toddlers in the control group compared to 1 for toddlers in the treatment group. Mothers of toddlers in the treatment group do not verbalize as much concern or anger about the regressive behavior as mothers in the control group. No comparison of the level of maternal satisfaction with toddler behavior between groups is made.

Toddlers in the treatment group have fewer regressive changes than toddlers in the control group but this difference is not statistically significant. The incidence of regressive behavior for each group is highest at 1 week postmaternal/newborn hospital discharge.

Research Question Two

Research question two stated:

> Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in eating behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

Mothers of toddlers in the treatment group report fewer regressive changes in eating behavior than those of toddlers in the control group; however, this difference is

not statistically significant (Table 6, Figure 3). Mothers of toddlers in the control group report a slight increase in regressive behavior changes at Time 2, while mothers of toddlers in the treatment report a slight decrease in regressive changes from Time 1 to Time 2. An ANOVA with repeated measures reveals no significant differences between the groups over time. Most toddlers have no change in eating behavior. The most frequently reported behavior is that the toddler prolongs mealtime by playing at the table and not eating. Mothers who report this behavior state that it occurs regardless of the infant's presence at the table but is more frequent when fathers are not present at the meal.

Toddlers in the treatment group have fewer regressive changes in eating behavior than toddlers in the control group but this difference is not statistically significant. Most toddlers have no change in eating behavior.

Research Question Three

Research question three stated:

> Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in toileting behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

Mothers of toddlers in the treatment group report fewer regressive changes in toileting than those of toddlers in the control group (Table 7, Figure 3). An ANOVA with

Table 6

Means and Standard Deviations of Regressive Eating Behavior Scores by Group and Time

Group	Time 1	Time 2
Control (n = 10)		
Mean	0.9	1.0
Standard Deviation	1.1	1.16
Treatment (n = 11)		
Mean	0.72	0.46
Standard Deviation	1.1	0.69

Note. Maximum score = 5.

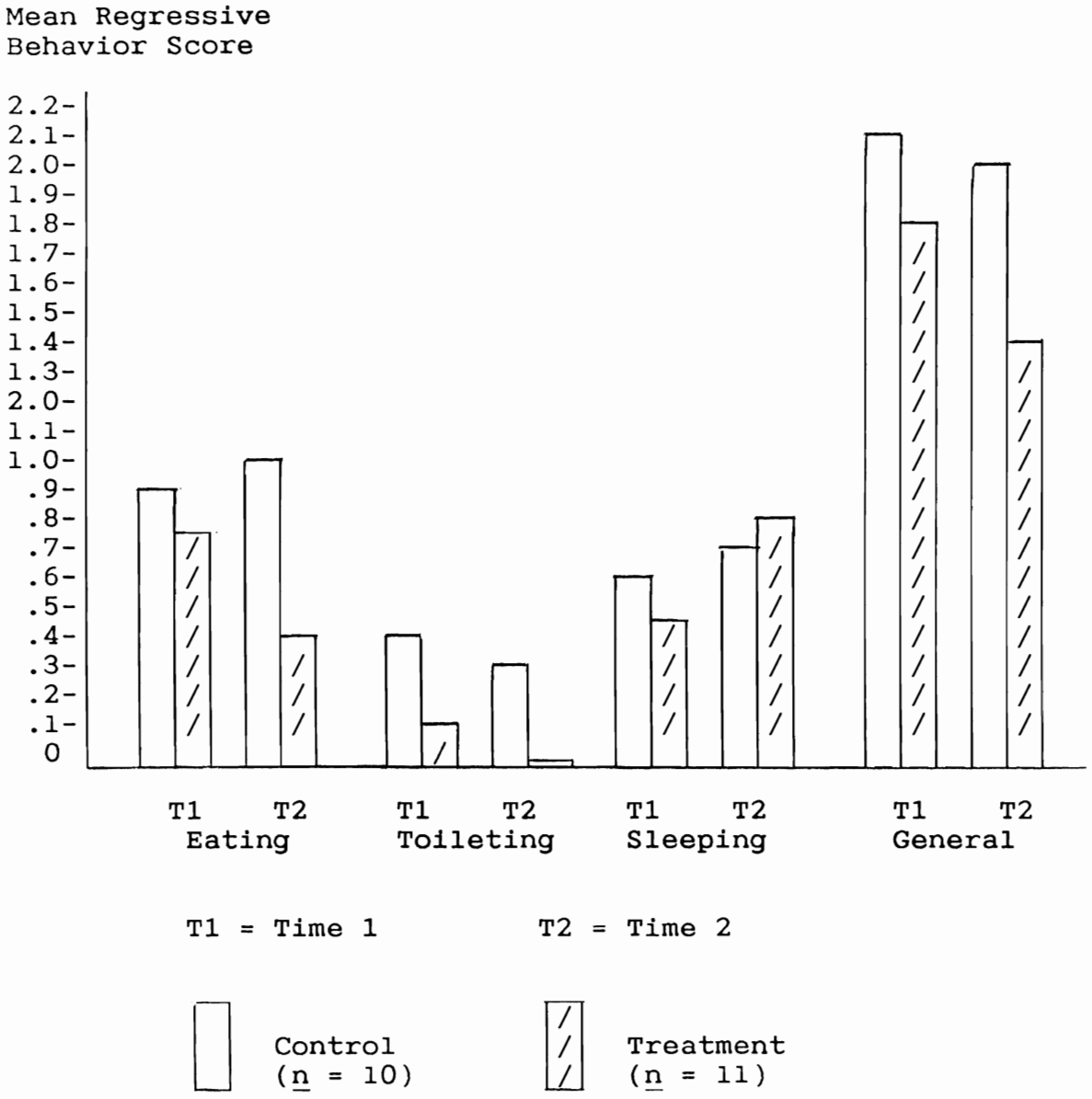


Figure 3. Comparison of mean regressive behaviors by group and time for the four behavior scores.

Table 7

Means and Standard Deviations of Regressive Toileting Behavior Scores by Group and Time

Group	Time 1	Time 2
Control (n = 10)		
Mean	0.43	0.29
Standard Deviation	0.54	0.49
Treatment (n = 11)		
Mean	0.11	0.00
Standard Deviation	0.33	0.00

Note. Maximum score = 2.

repeated measures reveals that this difference in regressive behavior is statistically significant at Time 1 ($F = 4.645$, $p < .05$); however, the difference between groups is not significant over time. There is no interaction effect between group and time (Table 8). Most toddlers have no change in toileting behavior. No toddlers in the treatment group show regressive changes in toileting at Time 2. The only regressive change in toileting behavior that mothers report is an increase in accidents.

Toddlers in the treatment group have fewer regressive changes in toileting behavior than toddlers in the control group. There is a significant difference between groups at Time 1; however, this difference does not remain statistically significant over time. No interaction effect is present between group and time.

Research Question Four

Research question four stated:

> Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in sleeping behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

Mothers of toddlers in the treatment group report fewer regressive changes in sleeping behavior at Time 1 than mothers of toddlers in the control group. The reverse is true at Time 2; however, neither difference between groups

Table 8

Analysis of Variance of Regressive Toileting Behavior For Group and Time

Source	df	MS	F
Between subjects	15.0		
Groups	1.0	.71627	4.645*
Error between	14.0	.15420	
Within subjects	16.0		
Time	1.0	.12500	.934
Interaction	1.0	.00198	.015
Error within	14.0	.13379	
Total	21.0		

Note. *$p < .05$.

is statistically significant (Table 9, Figure 3). An ANOVA with repeated measures does not reveal any significant differences between groups over time. The incidence of regressive behavior is increased for both groups over time.

Most toddlers do not have any change in sleeping behavior. The most frequently reported change in behavior is toddlers trying to prolong bedtime. Mothers state that their toddlers do not like to take naps or go to sleep at night if the newborn is awake. Saying goodnight and kissing the baby before going to bed are ways that toddlers put off bedtime. Younger toddlers are more likely to wake up crying during the night than older toddlers.

Toddlers in both groups have an increase in the incidence of regressive sleeping behaviors over time but this change is not statistically significant. Most toddlers have no change in sleeping behavior. Mothers reporting regressive behaviors state that prolonging bedtime is the most frequent behavior change.

Research Question Five

Research question five stated:

> Do toddlers who participate in a program designed to facilitate sibling acquaintance demonstrate fewer regressive changes in general behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge than toddlers who do not participate?

Table 9

Means and Standard Deviations of Regressive Sleeping Behavior Scores by Group and Time

Group	Time 1	Time 2
Control (n = 10)		
Mean	0.6	0.7
Standard Deviation	0.84	1.06
Treatment (n = 11)		
Mean	0.46	0.82
Standard Deviation	0.52	0.75

Note. Maximum score = 4.

Mothers of toddlers in the treatment group report fewer regressive changes in general behavior than those of toddlers in the control group; however, this difference is not statistically significant at $p < .05$ (Table 10, Figure 3). An ANOVA with repeated measures reveals no significant differences between groups over time. Most toddlers have two regressive changes at Time 1. Toddlers in the treatment group most often have no regressive changes in behavior at Time 2. In contrast, most toddlers in the control group have three regressive changes at Time 2.

Mothers frequently report demanding behavior, particularly when they are caring for the newborn. No mother reports aggressive or jealous behavior directed towards the newborn. Mothers often express frustration in trying to balance the needs of their toddler with those of the newborn. Several second-time mothers speak sadly at the loss of their exclusive relationship with their toddler. The first week after discharge mothers express guilt about not being able to respond instantly to their toddlers' demands. By the third week postdischarge, mothers are more likely to express anger and less empathy toward demanding behavior. Mothers who include their toddler in child care for the newborn and those who set aside regular private one-on-one time for their toddler, express more positive feelings about their child's general behavior. Approximately one-third of the subjects report

Table 10

Means and Standard Deviations of Regressive General Behavior Scores by Group and Time

Group	Time 1	Time 2
Control (n = 10)		
Mean	2.2	2.0
Standard Deviation	1.14	1.06
Treatment (n = 11)		
Mean	1.82	1.46
Standard Deviation	1.01	1.37

Note. Maximum score = 5.

toddlers playing more independently since the newborn's arrival.

Most toddlers have regressive changes in general behavior at 1 week postmaternal/newborn discharge. Toddlers in the treatment group have fewer regressive changes in behavior than toddlers in the control group, but these differences are not statistically significant.

Research Question Six

Research question six stated:

> Do mothers whose toddlers participate in a program designed to facilitate sibling acquaintance report that their family integration needs were met to a greater extent than mothers whose toddlers did not participate?

Maternal satisfaction with the sibling acquaintance program was assessed by analyzing responses to the question, "Were you satisfied with the visitation the hospital allowed for you and your toddler?" Mothers whose toddlers participate in the sibling acquaintance program are significantly more satisfied than mothers whose toddlers do not participate ($\underline{X}^2 = 3.82$; $\underline{df} = 1$, $\underline{p} < .05$). There is a moderately strong correlation (phi = .52) between maternal satisfaction and participation in the sibling acquaintance program (Table 11).

Sixteen subjects (76%) suggested ways that the sibling visitation could be improved to better meet their family's needs. Mothers in the control group expressed the desire for a sibling acquaintance program. They

Table 11

Maternal Satisfaction with Sibling Visitation by Group Assignment

	Group			
	Control (n = 10)		Treatment (n = 11)	
Satisfaction	n	%	n	%
Satisfied	3.0	30.0	9.0	81.8
Not Satisfied	7.0	70.0	2.0	18.2

Note. Chi-square (1 df) = 3.82; p < .05; phi = .52.

stated that it was difficult for their children to pick out their brother or sister from the other babies in the nursery. Several subjects in the control group had to restrain eager toddlers from going into the nursery to hold their sibling. These mothers also expressed a desire for lengthening visitation hours which were 1130-1200 and 1830-1900 daily.

When the sibling acquaintance program was introduced, visiting hours were changed to 1700-1900 daily to make supervision by the ward staff easier. Suggestions by the mothers in the treatment group focus on the fact that grandparent visitation hours were after sibling visitation hours, causing logistical problems for three families. Other suggestions were to adjust the visiting hours so they did not coincide with mealtimes and to expand the amount of sibling visitation on the unit (Table 12).

Mothers whose toddlers participated in the sibling acquaintance program report that their family integration needs are met to a greater extent than mothers whose toddlers do not participate ($\underline{X}^2 = 3.82$; $\underline{df} = 1$; $\underline{p} < .05$). A moderately strong correlation exists between maternal satisfaction and group membership (phi = .52). Sixteen subjects, 9 in the control group and 7 in the treatment group, had suggestions for improving the visitation programs to better meet their family integration needs.

Table 12

Mothers' Suggestions for Improved Sibling Visitation

Suggestion	Group	
	Control (n = 9)	Treatment (n = 7)
Institute sibling acquaintance	6	--
Expand visiting hours	5	5
Change time of visiting hours	0	3
Include grandparents during sibling visiting hours	0	3
No postpartum teaching during visiting hours	1	1

Additional Findings

Extended Family in Utah

Seventy percent (n = 7) of subjects in the control group have extended family members living in Utah. Four subjects in the treatment group (36.4%) have extended family residing in Utah.

Infant Feeding

Seventy-six percent of subjects are breastfeeding their infants. No mothers discontinued breastfeeding during the study period. Several mothers relate demanding behavior in their toddler at breastfeeding times.

Child Care Postpartum

Eighty-one percent of subjects had full-time help with child care during their first week postpartum. This help was primarily from fathers. Grandmothers were relied upon by 35% (Table 13).

Preparation for the Newborn

Only 1 mother reports receiving anticipatory guidance from her health care provider about preparing her toddler for the new baby. A pamphlet about siblings is included in the information packet given to all mothers at the obstetrical clinic's orientation course. Fifteen mothers (71%) received information about preparing their toddlers from sources outside the health care system. Family, friends and reading books and magazines are sources of

Table 13

Child Care for Toddlers Postpartum

(N = 21)

Variable	Control (n = 10)	Treatment (n = 11)	Total (N = 21)
Help following delivery			
Yes	8 (80.0%)	9 (81.8%)	17 (81.0%)
No	2 (20.0%)	2 (18.2%)	4 (19.0%)
Relationship of helper to toddler			
Father	6 (75.0%)	5 (55.6%)	11 (64.7%)
Grandmother	2 (25.0%)	4 (44.4%)	6 (35.3%)

advice and additional information.

Twenty women (95%) report that they prepared their toddler in some way for the arrival of the newborn. They used stories, dolls and the babies of friends to acquaint their children with the normal needs of babies. Most included their toddler in preparing the nursery and in choosing clothing and toys for the new baby. The 1 mother who did not prepare her child stated that "he was too young to understand." Most families made any needed changes in their toddler's sleeping arrangements prior to the birth. One family successfully moved their child from a crib to a bed after the birth. Three families put the newborn in the same bedroom as the toddler.

Hospitalization and Sibling Visitation

Most mothers were discharged on the second or third postpartum day. One mother in each group stayed until the fourth postpartum day because the pediatricians were concerned about their infant's serum bilirubin levels. Thirteen mothers (62%) had telephone contact with their toddler while still hospitalized. Toddlers in the treatment group visited more frequently than toddlers in the control group (Table 14). All but 1 mother reported feeling that the visits were helpful for the toddler.

Table 14

Toddler Visitation on the Postpartum Unit

(N = 21)

	Group			
	Control (n = 10)		Treatment (n = 11)	
Visitation	n	%	n	%
Frequency				
1	5	23.8	2	9.5
2	2	9.5	6	28.6
3	1	4.8	2	9.5
4	1	4.8	1	4.8
5	0		0	
6	1	4.8	0	
Mean	2.2		2.18	
Mode	1.0		2.0	

Interruptions During Interviews

The number of interruptions during each interview were recorded because it was hypothesized that frequent interruptions could adversely affect the quality of data during the interview. Interruptions occurred in less than one-third of the interviews. These interruptions do not appear to affect the quality or quantity of the data collected nor did they prematurely shorten the length of the interviews.

Increased Maturity in Toddler Behavior

Mothers comment that often their toddlers show growth or increased maturity in some aspect of their behavior. Several mothers report fewer toilet training accidents. Many children reportedly play more independently. Most mothers state that their toddler expresses concern over the infant's welfare and demonstrates an eagerness to participate in caring for the newborn.

Impact of Other Variables on Toddler Behavior

Although previous studies have alluded to the impact of older siblings, child care arrangements, amount of separation during delivery, amount of preparation, and type of newborn feeding on the behavior of young children following the birth of a sibling, the small sample size and an unequal distribution of these factors between

groups precludes statistical analysis of these potential influences. The investigator is, however, able to explore the differences between religion, sex, age and group membership on toddler behavior. Tables 15 through 24 and Figures 4 and 5 display the results of these 2-way ANOVAs.

Religion and Toddler Behavior

The LDS religion (The Church of Jesus Christ of Latter-Day Saints) is the predominant religion in the state in which the subjects reside. The LDS church places a high value on family harmony and sibling acceptance. Two-by-two factorial analysis of variance was performed to test for differences in regressive behavior based on group membership and parent's religious preference (LDS or non-LDS). No significant differences are found at $p < .05$, revealing that parental religious preference and group membership do not have a significant effect on toddler behavior in this investigation during the study period.

Sex and Toddler Behavior

Other authors have reported differences in regressive behavior based on sex differences between toddler and newborn (Dunn & Kendrick, 1982; Legg et al., 1974). Two-by-two factorial analysis of variance was performed to investigate the effects of sex (same sex, opposite sex) and group membership on regressive behavior. Same sex pairs have significantly fewer regressive behaviors than

Table 15

Means of Regressive Eating Behavior by Sex and Group at Time 1

	Sex	
Group	Same	Opposite
Control mean	.80	2.50
Treatment mean	.00	1.20

Table 16

Analysis of Variance of Mean Regressive Eating Behavior at Time 1

Source	df	MS	F
Group	1	3.619	4.30
Sex	1	7.111	8.449*
Interaction	1	.217	.258
Within (error)	12	.842	
Total	15		

Note. *$p < .05$.

Table 17

Means of Regressive Toileting Behavior

by Sex and Group at Time 1

	Sex	
Group	Same	Opposite
Control Mean	.20	1.00
Treatment Mean	.00	.20

Table 18

Analysis of Variance of Mean Regressive

Toileting Behavior at Time 1

Source	df	MS	F
Group	1	.690	5.176*
Sex	1	.690	5.176*
Interaction	1	.313	2.348
Within (error)	12	.133	
Total	15		

Note. *$p < .05$.

Table 19

Means of Regressive Total Behavior by Sex and Group at Time 1

	Sex	
Group	Same	Opposite
Control Mean	3.80	8.00
Treatment Mean	1.50	4.20

Table 20

Analysis of Variance of Mean Regressive Total Behavior at Time 1

Source	df	MS	F
Group	1	30.428	12.767***
Sex	1	39.443	16.550***
Interaction	1	1.957	.821
Within (error)	12	2.383	
Total	15		

Note. ***$p < .005$.

Table 21

Means of Regressive Sleeping Behavior by Age and Group at Time 1

	Age	
Group	≤ 30 mos	> 30 mos
Control mean	1.67	.25
Treatment mean	.40	.25

Table 22

Analysis of Variance of Mean Regressive Sleeping Behavior at Time 1

Source	df	MS	F
Group	1	1.456	5.188*
Age	1	1.938	6.907*
Interaction	1	1.553	5.534*
Within (error)	12	.281	
Total	15		

Note. *$p < .05$.

Table 23

Means of Regressive Toileting Behavior

by Age and Group at Time 2

	Age	
Group	≤ 30 mos	> 30 mos
Control mean	.67	.00
Treatment mean	.00	.00

Table 24

Analysis of Variance of Mean Regressive Toileting

Behaviors at Time 2

Source	df	MS	F
Group	1	.403	7.258*
Age	1	.332	5.972*
Interaction	1	.430	7.742*
Within (error)	12	.056	
Total	15		

Note. *$p < .05$.

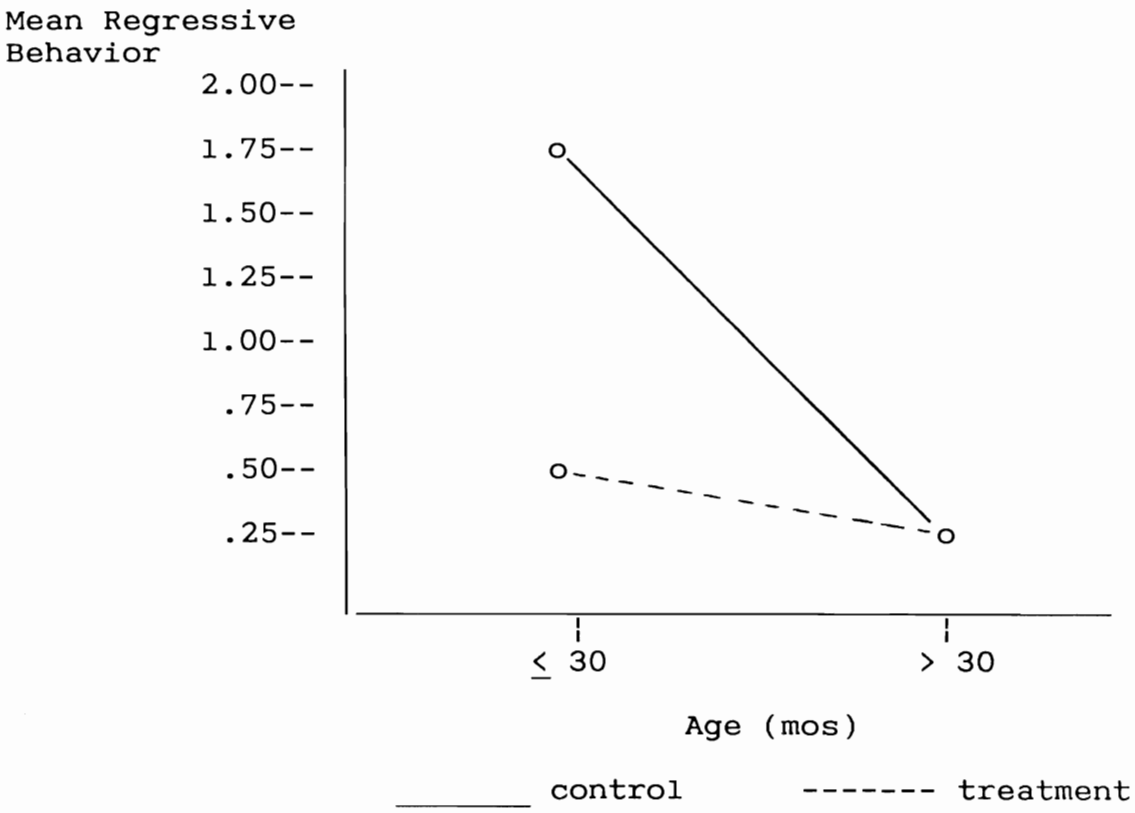


Figure 4. Effect of toddler age and group membership on regressive sleeping behavior at Time 1.

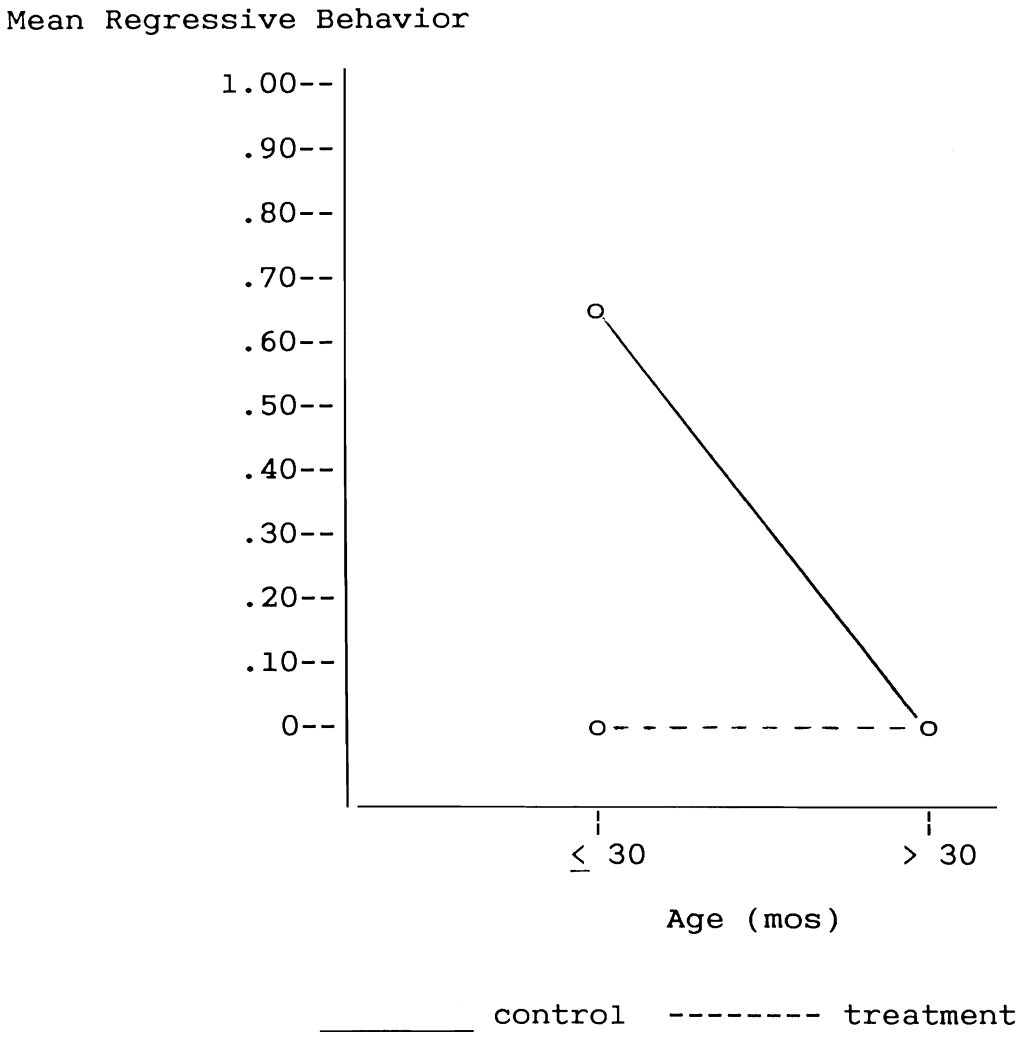


Figure 5. Effect of toddler age and group membership on regressive toileting behavior at Time 2.

opposite sex pairs for eating (Tables 15, 16), toileting (Table 17, 18) and total behavior (Table 19, 20) at Time 1. Toddlers in the treatment group have significantly fewer regressive behaviors than those in the control group for toileting (Tables 17, 18) and total behavior (Tables 19, 20) at Time 1. No significant differences were found for any posttest measure of regressive behavior at Time 2. No interaction effects between group and sex were found for either time period.

Age and Toddler Behavior

Other investigators have reported an increased incidence of regressive behavior in younger children than in older children following the newborn's arrival (Kayiatos et al., 1984; Legg et al., 1974; White, 1985). This investigator compared the incidence of regressive behavior between toddlers who were less than 30 months and toddlers who were greater than 30 months of age at the time of the baby's birth. Julian states that toddlers who are toilet trained are "demonstrating a willingness or motivation to engage in socially acceptable behavior" (1981, p. 438). White (1985) reports a significant decrease in nonsocial behavior during each month between 30 and 36 months. Although children may be physiologically ready for bowel and bladder training at 18 to 24 months of age, the mothers in this investigation report that their children were not completely toilet trained before

30 months of age. Only 2 subjects report complete training before 30 months. Mothers who delayed training until the child signaled readiness report rapid toilet training with few accidents. Mothers who made the decision to begin toilet training for their child report a longer time before the child is relatively accident free and verbalize a high degree of frustration with the whole process. Children who are fully toilet trained may demonstrate greater autonomous and socially acceptable behavior than those children who are still in diapers.

Two-by-two factorial analysis of variance was performed to investigate the effects of age and group membership on regressive behavior. A significant interaction effect exists for regressive sleeping behavior and group membership at Time 1 (Tables 21, 22). Young toddlers in the control group have significantly more regressive sleeping behaviors than young toddlers in the treatment group (Figure 4). There are no differences between groups in the older toddlers. A significant interaction effect exists for regressive toileting behavior and group membership at Time 2 (Tables 23, 24). Young toddlers in the control group have significantly greater regressive toileting behaviors than young toddlers in the treatment group (Figure 5). There is no difference in regressive behavior based on age in the treatment group. No significant differences are found for any other

posttest measure at Time 1 or Time 2.

Age and group membership have a significant effect on sleeping behavior at Time 1 and on toileting behavior at Time 2. Young toddlers in the control group have significantly more regressive behavior than young toddlers in the treatment group.

CHAPTER IV

DISCUSSION

Sample

Subjects in the control group differed from subjects in the treatment group on several demographic measures. Subjects in the treatment group were slightly older and more educated than subjects in the control group. Their increased education and life experience may have had an effect on their approach to parenting and on their perceptions of their toddler's behavior. Family income was higher in the treatment group and they were less likely to have children older than their toddler. A larger family size and a smaller family income could place the families in the control group under increased stress, adversely affecting toddler behavior. For families having their second child, the changes in toddler behavior may be more stressful since they have no prior experience to help them deal with behavior changes. Toddlers with older siblings have been reported to have fewer adjustment difficulties than those who did not (Legg et al., 1974). The differences in toddler birth order may have influenced the results of this investigation. Too few subjects in

the treatment group had children older than the toddler, thus precluding statistical investigation of this factor on regressive behavior.

This study was limited by several problems inherent in clinical research. A sample size of 15 to 20 subjects per group was desired. The actual sample size was lower than estimated using monthly delivery statistics from the previous 2 years and a prenatal chart audit. The investigator's time constraints for data collection and the introduction of the sibling acquaintance policy on 1 February 1986 were factors contributing to the small sample size. The elimination of women who had complications of labor and delivery further decreased the sample size. Subjects were not randomized because of time constraints and potential problems in trying to separate control group and treatment group mothers who were all patients on one small postpartum unit. No attempt was made to match subjects based on demographic characteristics. The result was a control group and treatment group who differed on some potentially influential factors. Differences in results obtained from statistical analysis may have been due to differences in the two groups and not to the effect of the treatment.

Research Question One

No significant difference in the incidence of regressive behavior at 1 week and 3 weeks postma-

ternal/newborn hospital discharge was found between groups. Overall, there were few changes in toddler behavior. A low variance was present in each group, skewing the results to the lower end of the range (Table 5). Almost every mother reported at least one regressive change in behavior. This finding is consistent with reports of regressive behavior in greater than 90% of children studied by Kayiatos et al. (1984) and Trause and Irvin (1983). Two previous investigators who compared the behavior of children who visited with those who did not visit and found no significant differences in the incidence of regressive behavior (Kraus, 1979; Trause et al., 1981).

Reports of posthospital adjustment show a rapid resolution of regressive behavior changes (Thompson, 1985). Bowlby (1973, 1979) reported a rapid disappearance of regressive behavior in young children following reunion with the mother. In this investigation, separation due to maternal hospitalization was short, an average of 2 to 3 days. All toddlers visited their mother at least once during the hospitalization and most had telephone contact with her.

A previous investigation, using the BCTMRQ, reported a mean of 4.24 regressive changes in total behavior (Kayiatos et al., 1984). In this study, the mean number of regressive behaviors for the control group was

consistent with that report. The mean number of regressive changes for toddlers in the treatment group was slightly less than previously reported.

Fewer regressive behavior changes have been reported in toddlers who had no visitation (Kayiatos et al., 1984). A mean of 3.36 changes was reported for toddlers with visitation and a mean of five changes for toddlers who did not visit. This difference approached significance at $p < .05$. These investigators did not collect data regarding the type and amount of sibling visitation allowed for the toddlers in their sample making direct comparison of these results with the present investigation impossible.

The findings from this investigation are limited by the use of a small, nonrandom sample. Real differences between groups may exist but were not detected. The BCTMRQ contains only a few questions in each of the four categories of behavior. The questionnaire did not seem to discriminate well between the amount of change for each child and between children. The instrument measured only the presence or absence of regressive behavior, not the degree of intensity noted. Scores for children with high amounts of regressive behavior were not very different from scores of children with only a few regressive behaviors.

Behavior is multifactorial. Other uncontrolled influences on behavior may have affected the findings,

such as the presence of older siblings or extended family members helping with child care. Most mothers in this study prepared their toddler for the birth which has been reported to be an important influence on behavior (Legg et al., 1974; Vestal, 1979).

The time period chosen for the interviews may not have been optimal for determining the incidence of regressive behavior in toddlers following the birth of a sibling. Short-term changes in behavior may have been underreported. Other long term changes may not have been apparent by the second interview. Other investigators report an increase in regressive and aggressive behavior changes when the younger sibling becomes mobile at about 8 months of age (Dunn & Kendrick, 1982; White, 1985).

Mothers of toddlers in the treatment group reported fewer regressive changes than mothers of toddlers in the control group. While this difference is not statistically significant, one may wonder if this difference may have some clinical significance for families. The sibling acquaintance program does not appear to have a negative impact on the amount of regressive behavior shown by toddlers in this investigation. Fewer regressive changes in behavior shown by toddlers in the treatment group may have a beneficial effect on the family unit which is making many adjustments to incorporate the new family member. The slightly lower incidence of regressive

behavior exhibited by toddlers in the treatment group may reflect the influence of sibling bonding, promoted by the early, in-hospital contact. This bonding may not exert its influence on behavior as profoundly as the separation anxiety caused by maternal hospitalization and the many other stresses of the role change to older sibling.

Research Question Two

No significant difference in the incidence of regressive eating behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge was found between groups. Most toddlers had no change in eating behavior. This finding is consistent with observations of Dunn and Kendrick (1982) and increased dependency behavior at meals following the birth of a sibling have been reported (Legg et al., 1974; Trause & Irvin, 1982). No mothers in this investigation reported these behavior changes.

A previous study, using the BCTMRQ, reported a mean of 0.72 regressive changes in eating behavior (Kayiatos et al., 1984). Mean regressive behaviors for toddlers in the control group were slightly higher than the previous report. Mean regressive behaviors for toddlers in the treatment group at Time 1 were the same as that previously reported; however, at Time 2, the mean amount of regressive behavior was slightly less. Mothers in this investigation were interviewed at 1 week and 3 weeks following hospital discharge compared to between 3 and 6

weeks postpartum in the previous study. The repeated interview technique and the earlier time period selected for the first interview may have been more successful in gaining accurate information from mothers regarding toddler behavior.

The lack of significant differences between groups may have been due to the small, nonrandomized sample. More toddlers in the control group had older siblings who may have exerted a positive influence on behavior at mealtime.

Eating behavior is a major means by which toddlers seek to exert their autonomy (Ritchie, 1981; White, 1985). The most frequently reported behavior change, prolonging meals by not eating or playing at the table, may reflect a normal behavior for children in this age group. Time demands placed on mothers by the newborn's needs may make mothers more sensitive to this behavior since they have less time to spend at meals.

Research Question Three

A significant difference between groups was found at Time 1 for the incidence of regressive toileting behavior ($F = 4.645$, $p < .05$). This difference did not remain significant over time, nor was an interaction effect between group and time elicited. Other investigators have found a high incidence of regressive behavior in this area following birth of a sibling (Dunn & Kendrick, 1982; Legg

et al., 1974). Most toddlers in this investigation showed no change in behavior. The incidence of regressive behavior in both groups decreased over time.

A previous investigation, using the BCTMRQ, reported a mean incidence of 0.41 regressive changes in toileting behavior (Kayiatos et al., 1984). Mean regressive changes for the treatment group were lower than the previous study. The average change for toddlers in the control group at Time 1 was consistent with the previous report; however, by Time 2, the mean amount of regressive behavior was less.

The BCTMRQ has only two questions in the toileting category. The instrument does not appear to be able to discriminate between toddlers with little change in toileting behavior from those with large amounts of change. The number of accidents is not asked, only if more accidents are present. No child was reported to spend more time playing on the toilet. This means that differences in toileting behavior were assessed based on positive responses to only one question. This limitation may have contributed to the lack of statistically significant differences between groups over time. The use of a small, nonrandomized sample may also have influenced the results obtained.

The increased incidence of regressive behavior by toddlers in the control group may be due to the many

changes occurring in the household. The change in the normal routine may have caused greater anxiety in toddlers in the control group, resulting in more accidents. The influence of a stronger relationship with the newborn, resulting from the sibling acquaintance program, may have helped toddlers in the treatment group feel more secure and thereby less likely to regress in this area of behavior.

Research Question Four

No significant difference in the incidence of regressive sleeping behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge was found between groups. The incidence of regressive behavior increased over time for toddlers in each group. Most toddlers did not have any change in sleeping behavior. Regressive sleeping behavior was the most frequent change in behavior noticed in toddlers in an investigation by Trause and Irvin (1981). A high incidence of sleep disturbances was reported by Dunn and Kendrick (1982).

A previous investigation using the BCTMRQ reported a mean of 0.93 regressive changes in sleeping behavior. This was higher than means for toddlers in this investigation.

The most frequently reported behavior change was of toddlers trying to prolong bedtime. Mothers reported that their toddlers wanted to say goodnight to and kiss the

baby prior to going to bed. Resistance was noted when mothers tried to put the toddler to bed when the baby was still awake. Controlling the decision over the time for going to bed may be a normal means by which the toddler seeks to exert autonomy (Tudor, 1981; White, 1980).

This behavior may be viewed as a positive response and not as regressive in nature. It may reflect the establishment of a bond between siblings. The increase in this behavior over time leads the investigator to suspect that this change may be more a measure of attachment between siblings than a regressive behavior due to insecurity. Hugging and kissing of the newborn has been reported to begin early in the establishment of a relationship between siblings (Marecki et al., 1985).

The BCTMRQ has four questions about regressive changes in sleeping behavior. This limited number of questions may affect the ability of the instrument to discriminate between large and small amounts of behavior changes. The small sample size and use of a nonrandomized design may also have influenced the results obtained.

Research Question Five

No significant difference in the incidence of regressive general behavior at 1 week and 3 weeks postmaternal/newborn hospital discharge was found between groups. Most toddlers showed at least one regressive change in behavior in this category. This finding is

consistent with those of other investigators (Dunn & Kendrick, 1982; Legg et al., 1974; Trause & Irvin, 1983; Vestal, 1979).

A previous investigation using the BCTMRQ reported a mean of 2.14 regressive behavior changes (Kayiatos et al., 1984). The findings of this investigation for toddlers in the control group are comparable to the previous report; however, toddlers in the treatment group had slightly fewer regressive changes.

The most frequently reported behavior was of toddlers being more clinging and demanding. This behavior has been reported by Bowlby (1973) following separation from the mother. Mothers in this investigation who gave special individual attention to their toddlers and those who involved the toddler in child care for the newborn, reported less demanding behavior. These specific behavior have been recommended to increase toddler security following the birth of a sibling (Vestal, 1979; Kraus, 1979).

Second time mothers expressed sadness and guilt over not having the same exclusive relationship with their toddlers as they had before the newborn's arrival. These maternal concerns have been reported by Mercer (1979), Moss (1981) and Grubb (1980). Empathy towards the toddler's demanding behavior at Time 1 gave way to feelings of frustration and anger at Time 2. This change

in maternal perspective on behavior has also been reported by Trause and Irvin (1983) and Grubb (1980).

The use of a small sample may have influenced the results obtained. Differences between groups due to the nonrandomized sample may have obscured real differences between the behaviors of toddlers in the two groups. The influence of other adults who helped with child care, and the presence of other siblings may have had an impact on the results.

Research Question Six

Mothers whose toddlers participated in the sibling acquaintance program reported that their family integration needs were met to a greater extent than mothers whose toddlers did not participate. The difference was significant at $p < .05$ ($X^2 = .384$, $df = 1$) with a phi correlation of .52 showing a moderately strong relationship between maternal satisfaction and participation in the sibling acquaintance program. Mothers stated that the sibling acquaintance program allowed their toddler to accept the newborn as "mine" and to subsequently show a greater interest in the infant's welfare at home.

Family integration has been reported to be a major area of concern for multiparous women (Moss, 1981; Gruis, 1977). Mothers have been found to expend large amounts of energy while on the postpartum unit promoting acceptance

of the newborn by the other children (Walz & Rich, 1983). Programs that allow close early contact between children and their siblings are reported to enhance sibling attachment and bonding (Kowba & Schwirian, 1985; Krutsky, 1985).

The results of this investigation suggest that this sibling acquaintance program may help meet the need of multiparous women to integrate the newborn into their family systems. Sixty-six percent of women in the control group specifically mentioned a desire for a sibling acquaintance type of program when asked an open-ended question about how the hospital's sibling visitation program could be improved. Following institution of the sibling acquaintance program, suggestions focused on the times and the lengths of visits.

Further investigation by the hospital staff may elicit a more optimal time for and duration of the sibling acquaintance program. Mothers in the treatment group also wanted grandparent visitation to coincide with sibling visiting hours. Families in the treatment group were more likely to have grandparents providing child care for their toddlers. This area for improvement can be viewed as an important need that the visitation program, as currently structured, does not meet.

Findings from this investigation may be skewed to the positive. Subjects were aware that they were

participating in a new program and their reports of satisfaction may have been biased by a halo effect. The attitude of the hospital staff who actually administered both visitation programs may have influenced subjects' perceptions of satisfaction. The investigation began immediately after initiation of the new program and reports of dissatisfaction in the treatment group may reflect problems in getting the sibling acquaintance program initiated and running smoothly.

Additional Findings

Extended Family

Almost twice as many subjects in the control group than in the treatment group reported having extended family members living in Utah. The presence of extended family nearby may decrease the stress of bringing the newborn home and integrating it into the family system and it suggests increased resources which a family can utilize for advice, support and child care. The small sample size precluded statistical analysis of this potential influence on regressive behavior.

Infant Feeding

Other investigators have reported more regressive behavior in toddlers whose mothers breastfeed the newborn (Dunn & Kendrick, 1982; Legg et al., 1979). No mothers in this investigation discontinued breastfeeding due to

negative toddler behavior but demanding behavior was frequently reported during infant feedings. Too few women in this investigation bottle fed their infants to allow for statistical analysis of any relationship between infant feeding and regressive behavior.

Child Care Postpartum

Most subjects had help with child care for at least 1 week following delivery. Help was primarily provided by fathers who took time off from work. The presence of another adult to meet the toddler's needs, particularly that of the father who is familiar to the toddler, may have been a powerful influence in reducing the incidence of regressive behavior in both groups. Grandmothers provided assistance with child care in 44% of the treatment group and in 25% of the control group. The grandmother's presence may have disrupted normal patterns of functioning and contributed to a greater incidence of regressive behavior in some toddlers. In other cases, the grandparent's presence may promote more mature behaviors in an effort to please. The sample size was too small to allow for investigation of this potential influence on behavior.

Preparation for the Newborn

The results of this investigation show that mothers are interested in learning how to prepare their toddlers

for the birth of a sibling. Only one mother could recall receiving anticipatory guidance from her health care provider, while 71% sought information from outside sources. Since other investigators have reported that family integration needs are of primary importance following delivery, it seems that anticipatory guidance in the third trimester or earlier would be highly appropriate (Gruis, 1977; Moss, 1981; Walz & Rich, 1983). This was lacking in the prenatal care subjects in this investigation received. Reports by subjects may be biased to the more short-term recall and may not accurately reflect teaching actually received.

No measurement was made of how extensively toddlers were prepared for the birth of a new sibling. Toddlers in one group may have received significantly more preparation than toddlers in the other group. Other investigators have reported a significant decrease in the incidence of regressive behavior in children who were well-prepared for the birth of a sibling (Johnsen & Gaspard, 1985; Legg et al., 1974; Sweet, 1979). The results of this investigation may have been influenced by the amount of preparation the toddlers received prior to the birth. The small, nonrandomized sample may not have had the amount of toddler preparation equally distributed between the two groups.

Hospitalization and Sibling Visitation

Most mothers had telephone contact with their toddlers while they were hospitalized. This may reflect their family integration concerns. Toddlers in the control group had two different time periods during the day during which visitation was permitted, while toddlers in the treatment group were allowed visitation only once per day. In spite of the fewer times for visitation, more toddlers in the treatment group visited two or more times. This may be due to the better fit between visiting hours and toddler needs or it may be due to the sibling acquaintance program. More frequent toddler visitation by the treatment group may reflect the increased maternal satisfaction reported by subjects in the sibling acquaintance group. The increased frequency of toddler visitation by the treatment group may have promoted sibling bonding, subsequently further decreasing the incidence of regressive behavior during the investigation. A relationship between sibling visitation and the incidence of regressive behavior that approached significance at $p < .05$ was reported by Kayiatos et al. (1984). Vestal (1979) reported a study by Jordan in which a single visit on the postpartum unit had no significant effect on behavior. Other investigations of children present at the birth of their siblings suggest that close early contact between siblings may reduce the frequency of regressive behavior

(Krutsky, 1985; Parma, 1979).

Interruptions

The investigator hypothesized that frequent interruptions might decrease the quality and quantity of interview data. The subjects were always asked if it was a convenient time for them to talk prior to beginning the interview. Consequently, there were very few interruptions during the telephone conversations. In no case, did the interruptions appear to seriously interfere with data collection or the quality of anecdotal information given by mothers being interviewed.

Increased Maturity in Toddler Behavior

The instrument did not measure the presence of more mature behaviors in toddlers. Other investigators have reported a growth in some areas of behavior even though regressive behavior was exhibited in another aspect of behavior (Dunn & Kendrick, 1982; Trause et al., 1981). The anecdotal data from the investigation support this finding.

Religion and Toddler Behavior

No significant differences were found in regressive behavior based on group membership and parent's religious preference (LDS or non-LDS). The LDS religion is not the only religion that places a high value on family unity.

The strength of the family's beliefs and religious practices is unknown and may affect the influence of this factor on toddler behavior.

Religion may have a long-term effect on behavior; the study period may not have been long enough to discern these differences in behavior. Religion may have greater effect on older children than on toddlers. The small sample size and a slight skew towards higher incidence of LDS preference in the control group may have limited this finding.

Sex and Toddler Behavior

Same sex pairs had significantly fewer regressive behavior changes than opposite sex pairs for three of the five posttest measures (Tables 15 - 20). Most authors have reported fewer changes in same sex pairs than in opposite sex pairs (Legg et al., 1974; Vestal, 1979). Dunn and Kendrick (1982) reported that when the newborn and the toddler were both male, there was a reduction in regressive behavior. The same result was present, to a smaller degree, in female pairs. In this investigation, most of the toddlers were male. This skewing of sex towards males and the small sample size may have affected the results.

Age and Toddler Behavior

Significant interaction effects were found for two posttest measures. Young toddlers in the control group had significantly more regressive changes in sleeping behavior at Time 1 than young toddlers in the treatment group. Young toddlers in the control group had significantly greater regressive changes in toileting behavior at Time 2 than young toddlers in the treatment group. A greater incidence of regressive behavior in children aged 1 to 3 years than those aged 3 to 4 years was noted by Kayiatos et al. (1984). Children less than 3 years of age have been reported to have a harder time adjusting to becoming a sibling than older children (White, 1980, 1985). Kraus (1979) reported that children between 6 and 18 months have the most intense reactions to becoming a sibling.

Other investigators have reported a high frequency of regressive changes in toileting and sleeping behavior following the birth of a sibling (Dunn & Kendrick, 1982; Legg et al., 1974; Trause & Irvin, 1983). These two areas of behavior may be most sensitive to the effects of the sibling acquaintance program. The establishment of sibling bonds seems to exert beneficial effects on the behavior of toddlers less than 30 months of age.

CHAPTER V

SUMMARY, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

Summary

An increased incidence of regressive behavior in toddlers is frequently reported following the birth of a sibling. This investigation sought to separate the effect of separation on the toddler when the mother is hospitalized for delivery from the effect of becoming a sibling. Mothers were interviewed about their child's behavior in the first month following delivery in order to evaluate the effectiveness of a program designed to enhance family participation on the postpartum unit. Toddlers who participated in the sibling acquaintance program were hypothesized to have fewer regressive changes in behavior at 1 and 3 weeks postmaternal/newborn hospital discharge than toddlers who did not participate. Mothers whose toddlers participated in the sibling acquaintance program were hypothesized to report that their family integration needs were met to a greater extent than mothers whose toddlers did not participate.

Twenty-one mothers whose toddlers were less than 4

years of age at the time of their subsequent delivery were interviewed at 1 and 3 weeks following hospital discharge. Families who delivered between January 1 and 28, 1986, designated the control group, participated in the usual sibling visitation program which prohibited direct sibling contact. The hospital changed its sibling visitation program on February 1, 1986, allowing direct sibling contact on the postpartum unit. Families who delivered between February 1 and March 1, 1986, designated the treatment group, participated in the new sibling acquaintance program. A questionnaire reported to measure regressive changes in four categories (eating, toileting, sleeping and general) was adapted and utilized. Mean scores on the instrument were compared between groups by use of ANOVAs with repeated measures. Maternal satisfaction was assessed by chi-square analysis.

Conclusions

The sibling acquaintance program does not appear to have a negative impact on toddler behavior. Toddlers who participated in the sibling acquaintance program had fewer regressive behavior changes than toddlers who did not participate. This difference between groups was significant ($p < .05$) only for toileting behavior at Time 1. The lower incidence of behavior changes in the treatment group may have beneficial effects on family adjustment in the early postpartum period. The lower number of regressive

behaviors seen in toddlers in the treatment group may reflect the effects of bonding between siblings enhanced by the sibling acquaintance program. Fewer regressive behaviors may make relationships between parent and toddler more positive, thus easing the transition for each family member.

The sibling acquaintance program appears to exert a beneficial effect on toileting and sleeping behavior in toddlers less than 30 months of age. Young toddlers in the treatment group had fewer regressive changes at Time 1 than young toddlers in the control group. Toddlers and newborns who were the same sex had fewer regressive behavior changes than opposite sex pairs; however, no interaction effects were identified between sex and group.

Mothers whose toddlers participated in the sibling acquaintance program reported that their family integration needs were met to a greater extent than mothers whose toddlers did not participate. Satisfied mothers may not mind regressive behavior changes as much as dissatisfied mothers. A better beginning for families striving to integrate the new family member may lead to an easier transition in the early weeks postpartum. This may be particularly important for nuclear families with little social and extended family support.

Behavior in toddlers is multifactorial in origin. The use of a small, nonrandomized sample may have obscured

real differences between groups. Other influences on behavior may have had more profound effects on behavior than the sibling acquaintance program. Only regressive behavior was measured although more mature behavior was occasionally observed. The instrument used to measure behavior appears to be limited in its ability to discriminate well between the amount of change for each child, and between children. The use of a scale that assesses underresponse and overresponse such as the one developed by Calkin (1979) may yield a more accurate picture of toddler behavior in the first month following the birth of a sibling.

Implications for Practice

The sibling acquaintance program seems to enhance family participation on the postpartum unit. Other ways to help promote the integration of the newborn into the family system need to be explored. Grandparent visiting on the postpartum unit is another issue that needs to be addressed.

Only 1 mother in this investigation reported receiving anticipatory guidance about preparing her toddler for the newborn's arrival. Most mothers reported seeking information from other sources. Incorporating anticipatory guidance into prenatal care may be beneficial in helping mothers prepare toddlers to become siblings. This topic may also be appropriate for prepared childbirth

classes.

Prepared sibling classes have been developed for preschool-aged children. The results from this investigation suggest that younger toddlers may also benefit from similar classes.

Recommendations

The following recommendations for further study are made:

1. Increase the sample size to include 20 to 30 subjects in each group.

2. Pretest subjects to have a frame of reference with which to evaluate behavior.

3. Randomize or match toddler/family pairs for factors shown to influence behavior following the birth of a sibling.

4. Include only first born toddlers to control for the influence of older siblings.

5. Use a balanced instrument that measures degree of response and examines for more mature behavior, as well as for regressive behavior.

6. Conduct in-person interviews and observations to increase validity of assessments.

7. Examine the time periods chosen for interviews since behavior changes seem to be short-term in nature.

8. Examine toddler/newborn pairs longitudinally to identify time periods in which regressive/aggressive

changes are most likely to occur.

9. Explore other ways to include toddlers in the events surrounding the birth of a sibling.

APPENDIX A

CONSENT FORM AND DEMOGRAPHIC QUESTIONNAIRE

Consent For Participation in Investigational Study on Effects of a Sibling Visitation Program on Subsequent Toddler Behavior

Becoming a sibling can be stressful for toddlers. They must cope with being separated from their mother while she is hospitalized and then must learn to share their parents' love and attention with a new brother or sister. Allowing children to visit on the postpartum unit can help ease the strain young children experience while being separated from their mothers. This study will be evaluating the sibling visitation program at this hospital by interviewing mothers about their toddler's behavior in the first month following the baby's arrival. This investigation will be conducted between January 1, 1986 and March 24, 1986.

Participation in this study will involve your cooperation by having your toddler visit you on the postpartum unit at least once after you have had your baby. You will be contacted for a telephone interview at 1 week and at 3 weeks after your discharge. The interviews will be about 20 minutes long and will focus on your toddler's behavior and your feelings about any changes you may have noticed.

Little risk is associated with being interviewed. Some women may perceive a loss of privacy associated with being interviewed about their child's behavior. All mothers will receive the same nursing care regardless of their decision to participate.

Participating in this study will give you an opportunity to talk about your concerns about your toddler's behavior and to receive positive feedback regarding your parenting skills. The information gathered from these interviews will help other parents with young children by assisting health care providers to provide information and programs that will help the entire family adjust to the new baby.

If the birth and hospital stay are not normal for either you or the baby, for example, a Cesarean delivery, you will receive a letter from the investigator explaining why it was necessary to eliminate you from the study.

All records will be held in confidence by the investigator. The notes from the interviews will be coded by number and no information will be released that reveals the names of the subjects. Records of your participation

in this study may only be disclosed according to federal law, including the Federal Privacy Act, 5 U.S.C. 552a. and its implementing regulations.

If you have questions or concerns about your participation in this study, you may call the investigator, Elizabeth Bowers, at any time at 298-3688. You may also contact the University of Utah Institutional Review Board with any concerns that cannot be discussed with Ms. Bowers by calling 581-3655.

Consent for Participation in Investigational Study

The decision to participate in this research is completely voluntary on my part. No one has coerced or intimidated me into participating in this program. I am participating because I want to. Elizabeth Bowers has adequately answered any and all questions I have about this study, my participation and the procedures involved. I understand that she will be available to answer any questions concerning procedures throughout this study. I understand that if significant new findings develop during the course of this research which may relate to my decision to continue participation, I will be informed. I further understand that I may withdraw this consent at any time and discontinue further participation in this study without prejudice to my entitlements. I also understand that the medical monitor of this study may terminate my participation in this study if he or she feels this to be in my best interest. I understand that my entitlement to medical care or compensation in the event of injury are governed by federal law and regulations and if I desire further information, I may contact Ms. Bowers. A copy of this consent document has been given to me.

Date_____ Signature _____

SS# _____

Date_____ Witness _____

Home telephone number _____.

Demographic Questionnaire

Please take a few minutes to complete this demographic information:

1. What is your age? _____

2. Are you married? Yes _____ No _____

3. What is your occupation? _____

4. What is the highest grade of school you have completed?

   _____

5. What is the highest grade of school your spouse has completed?

   _____

6. How long have you lived in Utah? _____

7. Do you have any family living nearby?

   Yes _____ No _____

8. Do you have a religious preference? Type _____

9. Please give your family's range of income:

   _____ less than $10,000/year

   _____ $10,000 - $20,000/year

   _____ $21,000 - $30,000/year

   _____ greater than $30,000/year

10. What is your due date? _____

11. Is your toddler a boy or girl? _____

12. What is his/her age? (years, months) _____

13. Do you have any other children?

    Yes _____ No _____

    If yes, please give ages and sexes _____

    _____

14. What best describes the time you spend with your toddler?

_____ with child, all day every day
_____ with child most of day, every day
_____ with child mornings, every day
_____ with child evenings, every day
_____ with child nights, every day
_____ other _____

Thank you for your participation.

I will be contacting you for the first interview 1 week after your hospital discharge.

APPENDIX B

BEHAVIOR CHANGES IN TODDLERS AND MATERNAL RESPONSES QUESTIONNAIRE

Interview Number One[1]

Data Base (Obtained from informed consent sheets and chart audit):

Subject number _____

Toddler sex and age _____

Older children Yes _____ No _____

Newborn sex _____ Date of birth _____

Type of infant feeding: Breast _____ Bottle _____

Introduction

I have prepared a series of questions pertaining to your toddler's behavior. I am interested in learning about any changes you may have noticed in your toddler's behavior since you and your newborn came home from the hospital and your responses to these changes. First, I'd like to learn about your family's child care arrangements.

1. Do you have any outside or family help with child care?

   Yes _____ No _____

   If yes, how often? _____

   Who provides this help?

   _____ Spouse

   _____ Grandmother

   _____ Aunt

   _____ Friends

   _____ Hired help

   _____ Day care

   _____ Older siblings

[1] Adapted from Kayiatos et al., 1984.

2. Has there been a change in the type of child care for your toddler since the birth?

   Yes _____ No _____

   If yes, describe change _____

3. Has there been a change in the person who provides the most care for your toddler since the birth; for example, father providing more care?

   Yes _____ No _____

   If yes, describe change _____

4. Do you have any outside help with the housework?

   Yes _____ No _____

   If yes, how often? _____

Behavioral Changes Section 1:
Eating Behavior

Now I would like to ask you questions pertaining to your toddler's eating behavior.

	Yes	No	Comments
1. Have you noticed a change in your child's eating habits since the birth of the baby, such as returning to using a bottle or needing to be spoonfed?			
2. Have you noticed a decrease in his/her appetite since the birth of the baby?			
3. Have you noticed a change in his/her likes and dislikes in food since the birth of the baby?			

	Yes	No	Comments
4. Have you noticed a change in the number of times your child spills since the birth of the baby?			
5. Have you noticed a change in the amount of time your child plays at the table since the birth of the baby?			
6. Have meals been relaxed and pleasant for your family since the birth of the baby?			

If yes responses were obtained, the following questions were asked:

I would now like to ask you questions pertaining to your concerns about the changes in your child's eating behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's eating behavior?

Yes _____ No _____

If No, Skip to Section 2 -- Toileting Behavior.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			

	Yes	No	Comments
3. Did you get any information to base this decision on? Where?			
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's eating behavior? (Record examples if cited).			

Behavioral Changes Section 2:
Toileting Behavior

Now, I would like to ask you questions pertaining to your toddler's toilet habits. Is your toddler fully toilet trained?

Yes _____ No _____

If No,

None _____ Urine only _____

Days only _____ BMs only _____

If no toilet training, skip to section 3, Sleeping Behavior.

	Yes	No	Comments
1. Have you noticed a change in your toddler's toilet habits since the newborn's arrival, such as more accidents?			
2. Has your toddler spent more time playing on the toilet since the newborn's arrival?			

If yes responses were obtained, the following questions were asked.

I would like to ask you questions pertaining to your concerns about the changes in your child's toileting behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's toileting behavior?

Yes _____ No _____

If No, Skip to Section 3 -- Sleeping Behavior.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			

	Yes	No	Comments
3. Did you get any information to base this decision on? Where?			
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's toileting behavior? (Record examples if cited).			

Behavioral Changes Section 3:
Sleeping Behavior

I would now like to ask you questions pertaining to your toddler's sleeping behavior

	Yes	No	Comments
1. Have you noticed a change in your child's sleeping habits since the baby's arrival, such as crying when put to bed?			
2. Has your child increased his/her complaining of nightmares since the baby's arrival?			

	Yes	No	Comments
3. Has your child increased the amount of time he/she wakes up crying during the night since the baby's arrival?			
4. Has your toddler changed the amount of time he/she has attempted to prolong bedtime by asking for water or stories since the newborn's arrival?			
5. Did you move your child's bedroom, move your child from a crib to a bed, or make other changes in the toddler's sleeping arrangements since the baby's arrival?			

If yes responses were obtained, the following questions were asked.

I would like to ask you questions pertaining to your concerns about the changes in your child's sleeping behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's sleeping behavior?

Yes _____ No _____

If No, Skip to Section 4 -- General Behavior.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			
3. Did you get any information to base this decision on? Where?			
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's sleeping behavior? (Record examples if cited).			

Behavioral Changes Section 4:
General Behavior

Now I would like to ask you questions pertaining to other behaviors you may have noticed in your toddler.

	Yes	No	Comments
1. Has your toddler started using security items, or used them more, such as sucking his/her thumb, using a pacifier, or using a blanket since the newborn's arrival?			
2. Have you noticed changes in your toddler's playing habits; for example, playing alone or fighting with other children more often since the baby's arrival (including aggression towards the baby)?			
3. Has your toddler's activity level changed since the baby's arrival, such as increasing his/her activity or becoming unusually quiet (including change in speech patterns)?			
4. Has your toddler had more temper tantrums since the baby's arrival?			
5. In general, does your toddler seem more demanding of your time now than prior to the arrival of the newborn?			

	Yes	No	Comments
6. Has anything unusual happened in your family since the arrival of the newborn besides the birth of the baby, such as moving, mom quit working, or illness of toddler?			

If yes responses were obtained, the following questions were asked.

I would like to ask you questions pertaining to your concerns about the changes in your toddler's general behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's general behavior?

Yes _____ No _____

If No, Skip to Section 5 -- Preparation.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			
3. Did you get any information to base this decision on? Where?			

	Yes	No	Comments
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's general behavior? (Record examples if cited).			

Section 5: Preparation

I have one more set of questions that should take just a few minutes.

1. Did you get any information from your doctor's clinic to help you prepare your toddler for the arrival of the newborn?

   Yes _____ No _____

   If Yes, did you get this information from the obstetrician or pediatrician?

   Obstetrician _____ Pediatrician _____

   Was it helpful? Yes _____ No _____

   Was it enough? Yes _____ No _____

2. Did you get information from any other source, for example, friends, relatives or reading?

   Yes _____ No _____

If Yes, did you look for this information on your own?

Yes _____ No _____

3. Did you do anything to prepare your toddler for the newborn's arrival?

Yes _____ No _____

If Yes, what did you do?

_____

Section 6: Hospitalization and Sibling Visitation

1. Did you have telephone contact with your toddler while you were in the hospital?

Yes _____ No _____

2. How many times did your toddler visit you in the hospital?

_____

3. How many times did your toddler get to see the newborn in the hospital?

_____

3a. How many times did your toddler get to touch and hold the newborn in the hospital?

_____

4. Do you feel these visits were helpful for your toddler?

Yes _____ No _____ Comments_____

5. Do you feel that visiting with you in the hospital had any impact on your toddler's behavior since you've been home?

Yes _____ No _____ Comments_____

5a. Do you feel that visiting with you and the newborn in the hospital had any impact on your toddler's behavior since you've been home?

Yes _____ No _____ Comments _____

6. Were you satisfied with the visitation the hospital allowed for you and your toddler?

Yes _____ No _____

7. Do you have any suggestions for improvement?

Yes _____ No _____ Comments _____

Section 7: Newborn

1. Is your newborn healthy?

Yes _____ No _____

2. Are you breastfeeding or bottle feeding?

Breast _____ Bottle _____

If you discontinued breastfeeding, why?

_____

Thank you very much for your participation and effort!!

I will be contacting you again in another 2 weeks for the second half of the interview.

Note. Questions 3 and 5 in section 6 were asked of mothers in the control group, questions 3a and 5a were asked of mothers in the treatment group.

Interview Number Two[2]

Data Base (Obtained from informed consent sheets and chart audit):

Subject number _____

Toddler sex and age _____

Older children Yes _____ No _____

Newborn sex _____ Date of birth _____

Type of infant feeding: Breast _____ Bottle _____

Introduction

I have prepared a series of questions pertaining to your toddler's behavior. I am interested in learning about any changes you may have noticed in your toddler's behavior since you and your newborn came home from the hospital and your responses to these changes. First, I'd like to learn about your family's child care arrangements.

1. Do you have any outside or family help with child care?

   Yes _____ No _____

   If yes, how often? _____

   Who provides this help?

   _____ Spouse
   _____ Grandmother
   _____ Aunt
   _____ Friends
   _____ Hired help
   _____ Day care
   _____ Older siblings

2. Has there been a change in the type of child care for your toddler since the birth?

   Yes _____ No _____

   If yes, describe change _____

_____

[2] Adapted from Kayiatos et al., 1984.

3. Has there been a change in the person who provides the most care for your toddler since the birth; for example, father providing more care?

   Yes _____ No _____

   If yes, describe change _____

4. Do you have any outside help with the housework?

   Yes _____ No _____

   If yes, how often? _____

Behavioral Changes Section 1:
Eating Behavior

Now I would like to ask you questions pertaining to your toddler's eating behavior. I would like you to recall any changes since you came home from the hospital and any changes since our last conversation (record time when change occurred: first week only, after first week, continuous change).

	Yes	No	Comments
1. Have you noticed a change in your child's eating habits since the birth of the baby, such as returning to using a bottle or needing to be spoonfed?			
2. Have you noticed a decrease in his/her appetite since the birth of the baby?			
3. Have you noticed a change in his/her likes and dislikes in food since the birth of the baby?			

	Yes	No	Comments
4. Have you noticed a change in the number of times your child spills since the birth of the baby?			
5. Have you noticed a change in the amount of time your child plays at the table since the birth of the baby?			
6. Have meals been relaxed and pleasant for your family since the birth of the baby?			

If yes responses were obtained, the following questions were asked:

I would now like to ask you questions pertaining to your concerns about the changes in your child's eating behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's eating behavior?

Yes _____ No _____

If No, Skip to Section 2 -- Toileting Behavior.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			

	Yes	No	Comments
3. Did you get any information to base this decision on? Where?			
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's eating behavior? (Record examples if cited).			

Behavioral Changes Section 2:
Toileting Behavior

Now, I would like to ask you questions pertaining to your toddler's toilet habits. Is your toddler fully toilet trained?

Yes _____ No _____

If No,

None _____ Urine only _____

Days only _____ BMs only _____

If no toilet training, skip to section 3, Sleeping Behavior.

I would like you to recall any changes since you came home from the hospital and any changes since our last conversation (record time when change occurred: first week only, after first week, continuous change).

	Yes	No	Comments
1. Have you noticed a change in your toddler's toilet habits since the newborn's arrival, such as more accidents?			
2. Has your toddler spent more time playing on the toilet since the newborn's arrival?			

If yes responses were obtained, the following questions were asked.

I would like to ask you questions pertaining to your concerns about the changes in your child's toileting behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's toileting behavior?

Yes _____ No _____

If No, Skip to Section 3 -- Sleeping Behavior.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			

	Yes	No	Comments
3. Did you get any information to base this decision on? Where?			
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's toileting behavior? (Record examples if cited).			

Behavioral Changes Section 3:
Sleeping Behavior

I would now like to ask you questions pertaining to your toddler's sleeping behavior. I would like you to recall any changes since you came home from the hospital and any changes since our last conversation (record time when change occurred: first week only, after first week, continuous change).

	Yes	No	Comments
1. Have you noticed a change in your child's sleeping habits since the baby's arrival, such as crying when put to bed?			
2. Has your child increased his/her complaining of nightmares since the baby's arrival?			

	Yes	No	Comments
3. Has your child increased the amount of time he/she wakes up crying during the night since the baby's arrival?			
4. Has your toddler changed the amount of time he/she has attempted to prolong bedtime by asking for water or stories since the newborn's arrival?			
5. Did you move your child's bedroom, move your child from a crib to a bed, or make other changes in the toddler's sleeping arrangements since the baby's arrival?			

If yes responses were obtained, the following questions were asked.

I would like to ask you questions pertaining to your concerns about the changes in your child's sleeping behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's sleeping behavior?

Yes _____ No _____

If No, Skip to Section 4 -- General Behavior.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			
3. Did you get any information to base this decision on? Where?			
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's sleeping behavior? (Record examples if cited).			

Behavioral Changes Section 4:
General Behavior

Now I would like to ask you questions pertaining to other behaviors you may have noticed in your toddler. I would like you to recall any changes since you came home from the hospital and any changes since our last conversation (record time when change occurred: first week only, after first week, continuous change).

	Yes	No	Comments
1. Has your toddler started using security items, or used them more, such as sucking his/her thumb, using a pacifier, or using a blanket since the newborn's arrival?			
2. Have you noticed changes in your toddler's playing habits; for example, playing alone or fighting with other children more often since the baby's arrival (including aggression towards the baby)?			
3. Has your toddler's activity level changed since the baby's arrival, such as increasing his/her activity or becoming unusually quiet (including change in speech patterns)?			
4. Has your toddler had more temper tantrums since the baby's arrival?			
5. In general, does your toddler seem more demanding of your time now than prior to the arrival of the newborn?			

	Yes	No	Comments
6. Has anything unusual happened in your family since the arrival of the newborn besides the birth of the baby, such as moving, mom quit working, or illness of toddler?			

If yes responses were obtained, the following questions were asked.

I would like to ask you questions pertaining to your concerns about the changes in your toddler's general behavior. When I say concerns, I mean an uneasiness or interest about changes in your child's behavior. Keeping in mind this definition, are you concerned about any of the changes in your toddler's general behavior?

Yes _____ No _____

If No, Skip to Section 5 -- Newborn.

If Yes:

	Yes	No	Comments
1. Do you feel it may be due to the arrival of the newborn?			
2. What made you decide the changes were due to the newborn's arrival?			
3. Did you get any information to base this decision on? Where?			

	Yes	No	Comments
4. Did you deal with these changes?			
5. What did you do?			
6. Are you satisfied with the results?			
7. Could you have used more information to deal with the changes in your toddler's general behavior? (Record examples if cited).			

Section 5: Newborn

1. Is your newborn healthy?

   Yes _____ No _____

2. Are you breastfeeding or bottle feeding?

   Breast _____ Bottle _____

   If you discontinued breastfeeding, why?

   _____

Thank you very much for your participation and effort!!

APPENDIX C

POSTPARTUM PATIENT ORIENTATION AND FAMILY-CENTERED CHILDREN VISIT AGREEMENT

Department of the Air Force USAF Hospital (AFLC) Hill AFB, UT 84056

Obstetrical Nursing Unit Patient Information #1, 1 November 1984

Postpartum Obstetrical Patient Orientation to Unit and Visiting Policy

Congratulations on your new baby. In order that we may serve you in the best possible way and that you and your baby may enjoy a safe and comfortable stay in the hospital, we want you to have the following information.

1. Personal Care:

   a. You may shower, wash and/or roll your hair, wear makeup and your own gown or pajamas as soon as you are able and the nurse has given you permission.

   b. The nurse or technician will instruct you on the use of the surgigator or peri-bottle for cleansing the perineum while in the hospital. This helps heal and soothe your stitches.

   c. Your plastic peri-bottle (found in the bedside stand) may be taken home with you so that you can continue good perineal cleansing.

   d. To aid in healing your episiotomy, please wear your sanitary belt but no underpants. They prevent air from getting to your stitches.

   e. Wear a good supporting bra night and day whether or not you are breastfeeding. It will make you more comfortable and prevent your breast tissue from stretching and sagging.

   f. The staff will instruct you in using the sitz bath and peri-lite. Use the sitz bath for 15 to 20 minutes followed by the peri-lite for 10 to 15 minutes 3 or 4 times a day.

   g. Handwashing should be done frequently and always before handling, feeding, or nursing the baby, or applying medications to breasts. Also wash hands well before meals, after using the toilet, changing peri-pads, and changing the baby's diaper.

2. Ward Routines:

a. Meals are served early in general: breakfast about 0700, lunch about 1115, and supper about 1700 hours. In the kitchen refrigerator are fruits, milk, juices, bread, margarine, etc. that you may help yourself to for snacks between meals. (Please check with the nurse first if you are on a special diet). If we don't have something that you would like, ask and we will do our best to get it for you.

b. The doctors and/or midwives make their rounds between 0730 and 0800 during the week (a little later on weekends). Please be in bed at this time so you can be checked.

3. Visiting:

a. Fathers or the one designated primary visitor may visit from 0800 to 2000 hours and must scrub hands and arms to elbows for 2 minutes at the beginning of the visit and wear a green gown. During this time, the primary visitor may assist in caring for the infant.

b. Other adults may visit between 1200-1300 and 1900-2000 hours but only 2 people at a time in the room. During this time, all babies will be in the nursery.

c. Patients will not leave the ward unless directed by the nurse and properly gowned.

d. Sibling visitation:

(1) Siblings with noncommunicable diseases may be allowed to visit their mothers only between the hours of 1130-1200 and 1830-1900 and only in the waiting room on the Obstetrical Nursing Unit.

(2) Mothers must wear cover gowns when handling visiting siblings. This gown should be a different one from that used by the father when caring for the infant. Mothers must remove cover gown and thoroughly wash hands after contact with siblings and before caring for her infant.

(3) Infants must be in the nursery during siblings' visiting periods. Other infants may remain in mothers' rooms.

(4) Siblings must be attended by an adult at all times to prevent loud and boisterous behavior that might cause stress and discomfort to patients on the Central Nursing Unit area.

Linda Forest, Capt. USAF, NC
Charge Nurse, Obstetrical
Nursing Unit

Reviewed by Date

_____

_____

_____

Department of the Air Force
USAF Hospital Hill (AFLC)
Hill Air Force Base, UT
84056

Obstetrical Nursing
Unit

Family-Centered Children Visit Agreement

1. Brothers and sisters of the newborn are welcome to visit their new baby and mother together during their stay in the hospital.

2. Children must be accompanied by an adult other than the mother.

3. The parent(s) must sign this release form to participate in family-centered visiting.

4. The children and father or specified other adult should check at the nursing station upon arrival.

5. The children's visit is encouraged between 1700 hours and 1900 hours.

6. Children should not have:

fever	flu	sore throat
runny nose	cough	pink eye (conjunctivitis)
cold	rash	strep throat
cold sores	diarrhea	open, draining cut or wound
shingles		

7. Children should not have been in close contact with persons who have the following diseases within the incubation period specified:

	Incubation Period
Measles	1-2 weeks
Rubella (German Measles)	2-3 weeks
Chickenpox	2-3 weeks
Whooping Cough	7-30 days
Mumps	12-26 days
Infectious Hepatitis	2-3 months

8. The newborn is in the mother's room during visiting hours.

10. If children wish to hold the newborn, they must wash their hands carefully and gown a surgical shirt. For safety reasons, children must be seated and supervised when holding the newborn.

11. To honor other families' privacy, children must stay in the mother's room or her area of the room.

Release Statement

To participate in Family-Centered Visiting with Hill AFB, I verify that I have read the agreement listed above, that my visitors are free of symptoms and infections listed above, that I will comply with the agreement and all other hospital policies, that I am responsible for my visitor's actions while in the hospital, and that I am responsible for my newborn's safety while he/she is in my room.

Mother's Signature _____

Witness _____ Date _____

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